Motives of Customer Deposits Window-Dressing in Indonesian Commercial Banks

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ABSTRACT

This study examines the motives of Indonesian commercial banks to window-dress their customer deposits at the end of the financial year. Prior studies indicate that one of the motives is to maintain liquidity since an increase amount of customer deposits can result in a decrease to the loan to deposit ratio as well as improve year-end cash balance, indicated by the liquidity reserve requirement ratio. Using the panel data analysis method, this study employed 272 observations of conventional commercial banks in Indonesia from 2009-2011. The empirical results show that liquidity reserve requirement ratio as proxy for short-term banks' liquidity has negative effects on the level of banks' window-dressing. However, the results do not support the long-term liquidity motive. In addition, the results indicate that the tendency for banks to practise customer deposits window-dressing is higher among smaller banks than large banks. The results suggest that a bank's short-term bank liquidity ratio may not necessarily reflect the bank's true liquidity condition.

Keywords: Customer Deposits, Financial Reporting, Indonesian Banks, Liquidity, Real Earnings Management, Window-Dressing
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1. Introduction

Towards the end of the financial reporting year, some banks try to increase the amount of customer deposits by offering higher interest rates to premium customers who could be persuaded to park their funds in the bank for a short period of time. This practice can consequently, improve the bank's financial performance, especially its liquidity ratios. Nonetheless, despite the short term improvement it provides, this practice of window-dressing activity might violate regulations in that it impeaches on the maximum level of interest rate that is allowed for customer deposits.

Previous studies find that banks manage financial reporting including earnings management through accrual activities (Beatty, Chamberlain, & Magliolo, 1995; Beatty, Ke, & Petroni, 2002; Hillier, Hodgson, Clarke, & Lhaopadchan, 2008) and real activities (He, Ng, & Wang, 2004; Billings & Capie, 2009). Accrual earnings management refers to earning management which is conducted through choices of accounting methods and estimations (Fields, Lys, & Vincent, 2001). Accrual items which are used to manage earnings include loan loss reserves, loan charge-offs, benefits from the recognition of pension funds (gains from pension settlements), realised gains of trading securities, and securities reclassification (Beatty et al., 1995; Beatty et al., 2002; Hillier et al., 2008). Banks have a discretion to estimate loan loss reserves and loan charge-offs both of which help to cover estimated losses on loans due to defaults and the value of loans that are removed from their book. Both these elements can affect the bank's earnings.

Instead of managing earnings through accruals, window-dressing is a type of earnings management conducted through real activities in the banking industry. Real earnings management is a departure from normal operating practices which can mislead stakeholders into believing that certain financial reporting goals have been met through the normal course of operations (Roychowdhury, 2006). Some of the techniques of window-dressing used by banks include (a) the sale of poor performing financial instrument assets in the fourth quarter of the financial year instead of selling them in the first three quarters (He et al., 2004); (b) increasing short-term borrowings (Owen & Wu, 2011); and (c) increasing ownership of public debts (Ortiz, Sarto, & Vicente, 2012) and assets (Downing, 2012).

According to Downing (2012), the main motives for banks to practise window-dressing are to meet the regulatory requirement on capital adequacy ratio (CAR) by supporting it via the availability of

market demands and to maintain a leverage in meeting the expectation of creditors and rating agencies. Owen and Wu (2011) find that banks window-dress their accounts, especially short-term borrowing accounts, for the purpose of maintaining leverage.

Previous studies looking at banks' window-dressing practices have different focuses, for instance, Owen and Wu (2011) look at assets while Downing (2012) looks at both assets and liabilities. According to Putri and Muchlis (2012), window-dressing customer deposits is considered as the most common technique employed by banks in Indonesia because of its technical simplicity. In this context, customer deposits consist of bank demand deposits, savings deposits and time deposits. In the last quarter of the financial year, banks will have a stronger motive to practise window-dressing of these funds and this is done by offering customers attractive interest rates.

Window-dressing customer deposits helps to increase cash bank balances, liquidity reserve requirement ratio (LRRR) thereby, increasing the bank's liquidity ratios but at the same time, it lowers its loan to deposit ratio (LDR) (assuming a relatively fixed number of credits). Thus, a bank is likely to be motivated to practise window-dressing of customer deposits during times when it faces liquidity problems. Considering the liquidity motive discussed above, this study aims to examine the association between banks' liquidity and their level of window-dressing of customer deposits. The study uses conventional commercial banks in Indonesia as samples.

This study can make a number of contributions. Firstly, since few studies focus on explaining the motives of window-dressing of customer deposits, this study will be able to fill the research gap. Secondly, this study introduces a new measurement of customer deposits of window-dressing (i.e., upward- and downward-window-dressing) which addresses the temporary nature of window-dressing of customer deposits. Both upward- and downward-window-dressing can help to dissipate the conjecture that the nature of window dressing of customer deposits is temporary. Accordingly, upward-window-dressing practice occurring in the fourth quarter of the current year will be followed by a downward-window-dressing in the first quarter of the subsequent year.

The empirical results drawn from this study show a negative association between the level of window-dressing of customer deposits and the bank's short-term liquidity. This means that conventional and commercial banks in Indonesia are motivated to practise window-dressing of customer deposits as a way of overcoming short-term

liquidity problem. There are several implications for the regulators and users of the banks' financial statements. First, window-dressing of customer deposits is temporary in nature. It may help to increase the bank's liquidity in the last quarter of the current year, but it may decrease the bank's liquidity in the first quarter of the subsequent financial year. This customer deposits window-dressing activity enables a bank to boost its liquidity performance which is reported in the financial statements but it may also distort the true performance of the bank's liquidity in the financial statements. Secondly, a bank that practices window-dressing of customer deposits may bear higher costs of funds (Putri & Muchlis, 2012) as it has to offer relatively higher interest rates to attract new funds during year end promotion. This practice may cause the bank to breach the maximum interest rate for customer deposits as prescribed by the Indonesian Deposit Insurance Corporation. In addition, the higher cost of funds incurred may initiate the bank to increase rates in other areas such as its loan interest rates.

This paper is organised as follows: Section 2 reviews the relevant literature and develops the hypothesis, while section 3 explains the research design. Section 4 discusses the analysis and findings. Section 5 concludes.

2. Literature Review and Research Hypothesis

2.1 Motives to Practice Window-Dressing

In general, banks practise window-dressing as a means to meet the demands and expectations of various stakeholders' including regulators, depositors and rating agencies (Owen & Wu, 2011; Downing, 2012). In the case of upward-window-dressing, banks attempt to enhance customer deposits in the last quarter of the financial year so as to boost their liquidity ratio (Billings & Capie, 2009; Yang & Shaffer, 2010). This increase of customer deposits in the last quarter will increase the bank's cash and deposits balance which in turn, will increase the bank's statutory reserves and reduce its loans to deposit ratio. Both ratios are commonly used to assess a bank's liquidity.

In this study, upward-window-dressing is defined as the difference between the amount of customer deposits in the last quarter of the financial year and the average amount of deposits in the second and third quarters. On the other hand, downward-window-dressing is the difference between the amount of customer deposits in the first quarter of the subsequent period and the amount of deposits in the fourth

quarter of the current period. This is presumably due to the practice of window-dressing in the fourth quarter. Following the increase in the deposits amount in the fourth quarter, there will be a decline in the deposits in the first quarter of the subsequent period.

From the agency theory's perspective, window-dressing practices in banks occur due to self-interest differences among parties, namely, management, shareholders, creditors, and regulators. Further, the agency relationship inherently creates agency problems such as moral hazard, asymmetric information and adverse selection (Jensen & Meckling, 1976). The condition of the asymmetric information allows the bank's management to practise window-dressing on customer deposits. The increase of the bank's liquidity is temporary and it can cause a distortion in the accounting number as well as its financial performance. It is probable that stakeholders would not be able to differentiate whether the increase is due to the bank's businesses or caused by window-dressing practices. Under these circumstances, the bank's management tends to suffer from moral hazards as the bank becomes incapable of performing its duties as agents serving its principal's interest. Accordingly, a bank's management could deliberately make a decision to lift up the bank's performance for a temporary period of time and yet this practice could most likely be interpreted by the stakeholders, most specifically the principal, as the true performance of the agent. So, stakeholders should be aware of the potential impact of window-dressing on distorting bank's performance.

2.2 *Previous Research on Window Dressing*

The study of window-dressing was first introduced by Musto (1997) who set out to identify the turn-of-the-year-effect on the securities' market. Musto finds that commercial papers tend to be traded at the end of the year with a massive discount so as to avoid default risk or interest rate risk but this does not apply to treasury bills. The discount mentioned is bigger for papers with higher default or interest-rate risk at the end of the year. Such findings reinforce the notion of risk-shifting window-dressing practices.

Johnson (1969) defines the practice of window-dressing as a temporary balance sheets arrangement that is done to enhance the appearance of the bank's financial performance. However, he fails to provide empirical evidence of actual window dressing. Allen and Saunders (1992) provide some tangible evidence when they find a systematic upward-window-dressing adjustment occurring in bank

assets on the last day of each quarter over the 1978-1986 period. They also find reversals of temporary window-dressing behaviour as assets returned to permanent (benchmark) levels after the quarter-end reporting date for the 1984-1986 period. However, none of their findings address the motivation of bank managements in doing so.

He et al. (2004) examine the pattern of trading activities of financial instruments engaged by several institutions. Their study finds that banks, insurance companies, and mutual funds conduct window-dressing by selling more poorly performed stocks in the fourth quarter as compared to the selling that occurred during the other three quarters. Hillier et al. (2008) examine window-dressing within the credit union industry which occurs for the purpose of meeting the capital adequacy ratio. To increase CAR, credit unions tend to reclassify assets into a lower risk class in order to lower the impact of the denominator on the calculation of risk-weighted capital. The study finds that the accounting reclassification of credit is one of the techniques often used by credit unions to practice window-dressing on CAR.

In another study, Owen and Wu (2011) examine the practice of window-dressing on short-term borrowings within bank holding companies. They find that banks which window-dress short-term borrowings tend to have a high leverage ratio, low CAR, and high sensitivity of return on asset/return on equity. Ortiz et al. (2012) find that managers tend to hold less public debts on the disclosure date. Based on a report made by the Bank of Indonesia (2004), there is a possibility for a foreign bank's headquarter to practice window-dressing on business funds and this practice is aimed at complying with the CAR requirement imposed by the Indonesian central bank (Bank of Indonesia). The bank's headquarter may transfer funds to its branch office in Indonesia so as to improve its CAR on the reporting date.

Compared to Owen and Wu (2011) who examine window-dressing on short-term borrowing, Downing (2012) examine the propensity of banks to practise window-dressing on assets and liabilities which is aimed at improving their financial ratios. The results show that window-dressing on assets is an important tool which can enable banks' to manage their financial ratios (i.e., CAR and leverage). However, the same cannot be said of window-dressing on liabilities.

2.3 Hypothesis Development

As discussed above, prior research (Owen & Wu, 2011; Downing, 2012) suggests that banks practise window-dressing on assets and liabilities

by employing a variety of techniques in order to meet regulatory requirements. In addition, they also do so to meet the demands and expectations of stakeholders in general such as creditors and rating agencies to maintain the level of leverage. Further, banks practise customer deposits window-dressing to increase the liquidity ratios such as liquidity reserve requirement ratio (LRRR) and loan to deposit ratio (LDR). Billings and Capie (2009) find that the main purpose of practicing window-dressing in banks is to increase cash balances. It has been noted that banks with liquidity problem tend to have difficulty in increasing their cash ratio unless they conduct some window-dressing activities even if it is for 1 per cent to 2 per cent. In this regard, banks with lower liquidity ratios tend to practise customer deposits window-dressing as a way of overcoming their liquidity problems. Based on this argument, the following hypothesis is suggested:

H: Bank's liquidity is negatively associated with the practice of window-dressing on customer deposits.

3. Research Design

3.1 Data and Samples

The data of conventional commercial banks in Indonesia during the period of 2009-2011 were collected and analysed. The conventional banks include government commercial banks, foreign banks, non-foreign banks, and regional development banks (BPD). Islamic banks are excluded as they have different banking principles from those of conventional banks.

The secondary data used in this study were extracted from public sources. Financial statements of 27 public commercial banks were obtained from the Indonesian Stock Exchange website (www.idx.co.id) whereas financial statements of 80 private (closely held) commercial banks were obtained from the website of Bank Indonesia (www.bi.go.id) and the Indonesian Yearly Banking Directory (2009-2011). A total of 49 observations were identified as outlier data (i.e., the data exceed 3 times the standard deviation and have leverage ratios exceeding 100 per cent) and were excluded from the sample. This indicates that some banks have negative book value of equity balance. After screening, the final sample size totaled 272 firm-years. The sample selection process is presented in Table 1.

Table 1:   Sample Selection Process

Descriptions	Total
Number of commercial banks in Indonesia	121
Number of Islamic banks	(6)
Number of conventional banks	115
Number of banks that do not submit quarterly financial reports	(8)
Number the initial samples	107
Number of observation periods	3
Total initial observations	321
Outliers	(49)
Final samples	272

3.2 Research Model

The model in Equation (1) below is modified from Owen and Wu (2011) and is used to test the hypothesis. Since Owen and Wu (2011) did not address the association between banks' liquidity and customer deposits window-dressing, this study adjusted the original model by adding several variables namely, liquidity (LIQ), the changes of customer deposits (DPKGR), and bank type (DPUB).

$$WD_{DPKi,t} = \beta_0 + \beta_1 LIQ_{i,t-1} + \beta_2 LEV_{i,t-1} + \beta_3 LNSIZE_{i,t-1} + \beta_4 DPKGR_{i,t} \quad (1)$$
$$+ \beta_5 DPUB_{i,t} + \varepsilon_{i,t}$$

$WD_{DPKi,t}$: Window-dressing of customer deposits $(WD_{DPKi,t})$ bank i in period t is measured by: (i) upward-window-dressing $(WD_{DPK} - WD1_{i,t})$ and (ii) downward-window-dressing $(WD_{DPK} - WD2_{i,t})$.

$LIQ_{i,t-1}$: Liquidity of bank i in year t-1 is measured by: (i) short-term liquidity $(LLR_{i,t-1})$ and (ii) long-term liquidity $(LDR_{i,t-1})$.

$LEV_{i,t-1}$: Leverage of bank i in year t-1.

$LNSIZE_{i,t-1}$: Size of bank i in year t-1.

$DPKGR_{i,t}$: Changes of customer deposits of bank i from the second to the third quarter in year t.

$DPUB_{i,t}$: Type of bank, i.e. public listed or non-public listed banks.

The expected sign of the coefficients are as follows: $\beta_1(-)$, $\beta_2(+)$, $\beta_3(?)$, $\beta_4(-)$, $\beta_5(?)$. The hypothesis cannot be rejected if the coefficient of β_1 is statistically significant and the sign is <0.

3.3 Measurement of Variables

The dependent variable in this study is customer deposits window-dressing which is formulated as $WD_{DPK} - WD1_{i,t}$ for upward-window-dressing and $WD_{DPK} - WD2_{i,t}$ for downward-window-dressing. Upward-window-dressing of customer deposits is measured by the difference between the fourth quarter $DPK_{i,t}$ amount in year t with the average of second quarter and third quarter $DPK_{i,t}$ amount in year t. Downward-window-dressing of customer deposits is measured by the difference between the first quarter of $DPK_{i,t}$ amount of bank i in period $t+1$ with the fourth quarter of $DPK_{i,t}$ of bank i in period t. Both are deflated by total assets. The two measurements of customer deposits window-dressing are used because window-dressing is temporary, i.e. to increase customer deposits balance at fourth quarter of current period and to decrease customer deposits at the first quarter of the next period. These two window-dressing measurements are calculated by the following equations:

$$WD_{DPK} - WD1_{i,t} = \frac{EOQDPK_{i,t} - AVGDPKQ2Q3_{i,t}}{Total\ Assets_{i,t}} \quad \text{upward-window-dressing} \quad (2)$$

$$WD_{DPK} - WD2_{i,t} = \frac{DPKQ1_{i,t+1} - EOQDPK_{i,t}}{Total\ Assets_{i,t}} \quad \text{downward-window-dressing} \quad (3)$$

$EOQDPK_{i,t}$: Amount of customer deposits in the last quarter of the current year.

$AVGDPKQ2Q3_{i,t}$: Average of customer deposits in the second and third quarters of the current year.

$DPKQ1_{i,t+1}$: Amount of customer deposits in the first quarter of the subsequent period.

$Total\ Assets_{i,t}$: Total assets of bank i in the current year.

Due to the contrasting vector of these two customer deposits window-dressing measurements, this study multiplied the value of

downward customer deposits window-dressing $WD_{DPK} - WD2$ by minus one (-1) so as to facilitate the interpretation results.

The independent variable in this study is $LIQ_{i,t-1}$ and it is used to test the manager's motives for customer deposits window-dressing. Liquidity reflects the ability of a bank to manage a portfolio of assets and debts which will have an impact on the bank's risk operation. For short-term liquidity, the variable is measured by liquidity reserve requirement ratio $(LRRR_{i,t-1})$ and deflated by total deposits for the year t-1. For long-term liquidity, the measurement variable is calculated as loans to deposits ratio $(LDR_{i,t-1})$ using similar deflation factor as LRRR which is deflated by total deposits for the year t-1. Both ratios are taken from the database of the Indonesian Banking Directory.

Although both ratios measure liquidity they have opposite directions. Banks with a greater value of liquidity reserve requirement ratio (LRRR) are shown to have higher liquidity while banks with higher loans as compared to deposits ratio (LDR) are shown to have lower liquidity. To facilitate interpretation of these results, the LDR is multiplied by minus one (-1).

As bank managers may have other incentives other than to increase bank liquidity to window-dress customer deposits, this study employs the following control variables:

1. the bank's leverage ($LEV_{i,t-1}$), measured by total liabilities bank i divided by total assets in year t-1;
2. the bank's size ($LNSIZE_{i,t-1}$), measured by the natural logarithm of total assets in year t-1;
3. the customer deposits change in the second and third quarter ($DPKGR_{i,t}$), measured by the changes of customer deposits of bank i from the second to the third quarter in year t;
4. dummy categorical variable to distinguish non-public listed and public listed conventional commercial banks in the Indonesian Stock Exchange ($DPUB_{i,t}$), notated 1 for public listed banks and 0 if otherwise.

According to Owen and Wu (2011) and also Downing (2012), banks with higher leverage tend to practise window-dressing on short-term borrowings especially on short-term debts but this is not applied on other types of debts. Furthermore, banks with a higher level of leverage tend to have lower liquidity thus, they have stronger motives to practise window-dressing of customer deposits which is aimed at maintaining their CAR. Thus, leverage is expected to be positively associated with the practice of window-dressing of customer deposits.

Larger banks have stronger tendencies to practise customer deposits window-dressing as compared to smaller banks. One of the aims of window-dressing is to convince the market regarding the bank's capability to manage its operational risk thus its ability to avoid bank failure. Compared to small banks, larger banks enjoy better networks of priority customers and this makes window-dressing practice easier (Yang & Shaffer, 2010; Downing, 2012). In contrast, political cost hypothesis predicts that large firms, as compared to small firms, are more likely to use accounting choices that reduce reported profit as a means of avoiding political attention (Watts & Zimmerman, 1978; 1990). Moreover, the regulator tends to have a certain mechanism of paying more attention to large banks rather than smaller banks through the process of monitoring. Further, larger banks are also restricted in their practice of customer deposits window-dressing in their bid to minimise political attention. With these two factors in mind, it can thus be deduced that the size of banks could be positively or negatively associated with the activity of window-dressing of customer deposits.

In the banking industry, the change of customer deposits occurring from the second to third period $(DPKGR_{i,t})$ is used to control banks' tendency to practise window-dressing on customer deposits as a result of the inadequacy of customer deposit level before the fourth quarter period. Banks with lower customer deposits' growth in the period before the fourth quarter tend to practise customer deposits window-dressing in order to achieve predetermined annual customer deposits. In this regard, the DPKGR is expected to be negatively associated with the practice of window-dressing of customer deposits.

The control variable of the listing status of the bank $(DPUB_{i,t})$ is aimed at differentiating the behaviour of customer deposits window-dressing practices between public listed and non-public listed banks. The former, public listed banks, are banks that are listed on the Indonesian Stock Exchange (IDX). They are highly regulated and have more external control mechanisms than non-public listed banks. Thus, the role of regulatory intervention as control mechanism within public listed banks is likely to be more important as compared to its role in non-publicly listed banks (Cooper, 2009). The external monitoring mechanism of public listed banks will encourage them to comply with regulations. Accordingly, they will also be more cautious when conducting the practice of customer deposits window-dressing. This is because of the associated compliance risk attached to such activities. On the other hand, public listed banks have a greater access to their priority

customers hence, it becomes easier for them to practise window-dressing on customer deposits. With these two factors in mind, it can thus be deduced that public listed banks could be positively or negatively associated with the activity of window-dressing of customer deposits.

4.   Data Analysis and Discussion

4.1 Descriptive Statistics and Correlations Between Variables

Table 2 below presents the descriptive statistics of the variables in this study.

Table 2:   Descriptive Statistics

Variables	Mean	Median	Maximum	Minimum	Std. Dev.
WD_DPK-WD1 (ratio)	0.017	0.028	0.918	-2.167	0.193
WD_DPK-WD2 (ratio)	-0.066	-0.026	0.455	-1.036	0.162
LDR (%)	81.350	82.150	162.510	0	23.860
LRRR (%)	6.830	5.730	49.620	0	4.500
LEV (ratio)	0.832	0.882	0.999	0.007	0.158
LNSIZE (billion Rp)	24,174	3,950	450,000	89	62,780
DPKGR (ratio)	0.045	0.037	0.778	-0.843	0.144
DPUB (dummy)	0.280	0	1	0	0.440

Notes: WD_DPK-WD1 and WD_DPK-WD2 are banks' window-dressing of customer deposits. WD_DPK-WD1 is upward-window-dressing, measured by the difference between the fourth quarter $DPK_{i,t}$ amount in year t with the average of second quarter and third quarter $DPK_{i,t}$ amount in year t. WD_DPK-WD2 is downward-window-dressing, measured by the difference between the first quarter of $DPK_{i,t}$ amount of bank i in period $t+1$ with the fourth quarter of $DPK_{i,t}$ of bank i in period t. Both are deflated by total assets. LDR and LRRR are the long-term and short-term liquidity of bank i in year t-1. LDR is measured by the ratio of loans to deposits in year t-1, while LRRR is measured by liquidity reserve requirement ratio deflated by total deposits for the year t-1. LEV is the leverage of bank i in year t-1, measured by total liabilities of bank i divided by total assets in year t-1. LNSIZE is the size of bank i in t-1, measured by the natural logarithm of total assets in year t-1. DPKGR is the changes of customer deposits of bank i from the second to the third quarter in year t. DPUB is the type of bank, measured by a dummy variable, which is given the value of 1 if the bank is public listed on the Indonesian Stock Exchange and 0 if otherwise.

From the statistics provided, it can be seen that the mean value of variable WD_DPK-WD1 is 0.017 (positive). This indicates the existence of upward-window-dressing of customer deposits in the last quarter. In contrast, the mean value of variable WD_DPK-WD2 is -0.066 (negative)

which indicates the existence of downward-window-dressing of customer deposits in the first quarter of the subsequent financial year. The data indicate that the practice of window-dressing of customer deposits is temporary in nature as expected. This might be due to the increased amount of customer deposits in the fourth quarter followed by the decreased amount in the first quarter of the subsequent period.

The decreased amount of customer deposits in the first quarter of the subsequent period WD_DPK-WD2 is higher than the increased amount in the fourth quarter of the previous period WD_DPK-WD1. The mean value of customer deposits growth from the second quarter to the third quarter DPKGR is 4.5 per cent which is higher than the mean value of increased customer deposits in the fourth quarter WD_DPK-WD1 (1.7 per cent) but nevertheless, is smaller than the mean value of decreased customer deposits in the first quarter of the next period WD_DPK-WD2 (6.6 per cent). The mean of the leverage is 83.2 per cent and this indicates that banks have a fairly good leverage. The mean of LDR is 81.35 per cent, indicating that banks enjoy good liquidity. The mean of DPUB is 28 per cent which indicates that 28 per cent of the samples are public listed while the mean of LRRR is 6.83 per cent, a level above the minimum requirement of 5 per cent as set by the Indonesian central bank, Bank of Indonesia.

Table 3 below presents the correlation between two variables as an early indication of the association between variables included in the research model. The value in the first row on each variable indicates the coefficient value of correlation between two variables, the second row displays the statistical value, and the third row illustrates the *p* value. In the table, it can be seen that LRRR does not have a significant correlation with both measurements of window-dressing (upward- and downward-window-dressing), and both coefficient values are consistently negative. The direction of the correlation between LDR with both directions of the window-dressing measurements is contrary to hypothesis expectations. WD_DPK-WD1 has negative and statistically significant correlation with WD_DPK-WD2, thereby, providing empirical support for the argument which states that window-dressing of customer deposits is temporary in nature.

All the control variables namely, leverage (LEV), bank size (LNSIZE), growth in customer deposits (DPKGR) and type of bank ownership (DPUB) are negatively correlated with both measurements of customer deposits window-dressing. In addition, the type of bank ownership (DPUB) significantly correlated with both measurements of

Table 3:   The Correlation between Variables

Variables t statistic P value	WD_ DPK-WD1	WD_ DPK-WD2	LDR	LRRR	LEV	LNSIZE	DPKGR	DPUB
WD_DPK-WD1	1.000							

WD_DPK-WD2	-0.379***	1.000						
	-6.737	-----						
	0.000	-----						
LDR	0.011	-0.058	1.000					
	0.188	-0.957						
	0.851	0.339						
LRRR	-0.015	-0.022	-0.157***	1.000				
	-0.243	-0.360	-2.605	-----				
	0.809	0.719	0.010	-----				
LEV	-0.060	0.069	0.079	0.078	1.000			
	-0.980	1.136	1.305	1.278	-----			
	0.328	0.257	0.193	0.202	-----			
LNSIZE	0.071	-0.127**	0.026	0.097	0.397***	1.000		
	1.163	-2.104	0.424	1.604	7.099	-----		
	0.246	0.036	0.672	0.110	0.000	-----		
DPKGR	0.489***	-0.062	-0.056	0.055	-0.120*	-0.056	1.000	
	9.204	-1.020	-0.918	0.905	-1.980	-0.923	-----	
	0.000	0.309	0.360	0.366	0.049	0.357	-----	
DPUB	0.240***	-0.311***	0.170***	-0.077	0.117*	0.522***	0.031	1.000
	4.056	-5.384	2.828	-1.266	1.937	10.049	0.509	-----
	0.000	0.0000	0.005	0.207	0.054	0.000	0.611	-----

Notes: WD_DPK-WD1 and WD_DPK-WD2 are banks' window-dressing of customer deposits. WD_DPK-WD1 is upward-window-dressing, measured by the difference between the fourth quarter $DPK_{i,t}$ amount in year t with the average of second quarter and third quarter $DPK_{i,t}$ amount in year t. WD_DPK-WD2 is downward-window-dressing, measured by the difference between the first quarter of $DPK_{i,t}$ amount of bank i in period $t+1$ with the fourth quarter of $DPK_{i,t}$ of bank i in period t. Both are deflated by total assets. LDR and LRRR are the long-term and short-term liquidity of bank i in year t-1. LDR is measured by the ratio of loans to deposits in year t-1, while LRRR is measured by liquidity reserve requirement ratio deflated by total deposits for the year t-1. LEV is bank's leverage of bank i in year t-1, measured by total liabilities of bank i divided by total assets in year t-1. LNSIZE is the size of bank i in t-1, measured by the natural logarithm of total assets in year t-1. DPKGR is the changes of customer deposits of bank i from the second to the third quarter in year t. DPUB is type of bank, measured by a dummy variable, which is given the value of 1 if the bank is public listed on the Indonesian Stock Exchange and 0 if otherwise. *, ** and *** indicate significance at the 10%, 5% and 1% levels respectively. All variables are tested in 2 tails test

customer deposits window-dressing as both show positive correlations with upward-window-dressing (WD_DPK-WD1), and negative correlations with downward-window-dressing (WD_DPK-WD2). The variable of customer deposits change (DPKGR) is statistically significant and positively correlated with upward-window-dressing of customer deposits (WD_DPK-WD1).

4.2 Results and Discussion

The research model was tested by using data panel analysis for the sake of ensuring robustness; it was tested four times via four models. The models are:

i.   upward-window-dressing of customer deposits with LRRR as liquidity measure (Model 1);
ii. upward-window-dressing of customer deposits with LDR as liquidity measure (Model 2);
iii. downward-window-dressing of customer deposits with LRRR as liquidity measure (Model 3); and
iv. downward-window-dressing of customer deposits with LDR as liquidity measure (Model 4).

Table 4 shows the results of four model estimation. The four models tested the research hypothesis in which liquidity is expected to have negative effect on banks' window-dressing of customer deposits. The results of the first and second models show the effect of upward-window-dressing of customer deposits (WD_DPK-WD1) on short-term (LRRR) and long-term liquidity (LDR). The results of the third and fourth models show the effect of downward-window-dressing of customer deposits (WD_DPK-WD2) on short-term liquidity (LRRR) and long-term liquidity (LDR).

The estimation result of the first model shows that short-term liquidity (LRRR), leverage (LEV), bank size (LNSIZE), growth in customer deposits (DPKGR), and type of ownership (DPUB) simultaneously, have a significant effect on the upward-window-dressing of customer deposits (WD_DPK-WD1), as suggested by *F* test result with *p* value less than 1 per cent. Looking at the value of adjusted R^2, these five variables can explain 88.61 per cent of the upward-window-dressing of customer deposits activity, ceteris paribus.

Having looked at the *p* value of *F* test, the estimation result of the second model shows that long-term liquidity (LDR), leverage (LEV),

Table 4:   Model Estimation

Variables	Predicted Sign	Upward-Window-Dressing (WD_DPK-WD1$_{i,t}$)				Downward-Window-Dressing (WD_DPK-WD2$_{i,t}$)			
		Liquidity Measure: LRRR (Model 1)		Liquidity Measure: LDR (Model 2)		Liquidity Measure: LRRR (Model 3)		Liquidity Measure: LDR (Model 4)	
		Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic
C		0.093	53.569**	0.0971	20.293***	0.045	0.329	0.047	0.300
LRRR$_{i,t-1}$	−	−0.0006	−2.159**			−0.001	−2.860**		
LDR$_{i,t-1}$	−			−0.00002	−0.641			−0.00003	−0.084
LEV	+	−0.023	−12.270***	−0.023	−7.905***	0.092	2.062**	0.092	2.106**
LNSIZE$_{i,t-1}$	?	−0.007	−25.047***	−0.007	−16.396***	−0.001	−0.141	−0.002	−0.282
DPKGR$_{i,t}$	−	0.600	134.121***	0.574	23.726***	0.037	0.670	0.035	0.700
DPUB$_{i,t}$	?	0.100	47.126***	0.102	41.126***	−0.112	−3.296**	−0.109	−2.772**
AdjR²		88.61%		77.73%		4.44%		4.21%	
F stat		0.000		0.0000		0.005		0.006	
Estimated		Pool least square (common)		Pool least square (common)		Random Effect Model (REM)		Random Effect Model (REM)	

Notes: WD_DPK-WD1 and WD_DPK-WD2 are banks' window-dressing, measured by the difference between the fourth quarter $DPK_{i,t}$ amount in year t with the average of second quarter and third quarter $DPK_{i,t}$ amount in year t. WD_DPK-WD2 is downward-window-dressing, measured by the difference between the first quarter of $DPK_{i,t}$ amount of bank i in period $t+1$ with the fourth quarter of $DPK_{i,t}$ of bank i in period t. Both are deflated by total assets. LDR and LRRR are the long-term and short-term liquidity of bank i in year $t-1$. LDR is measured by the ratio of loans to deposits in year $t-1$, while LRRR is measured by liquidity reserve requirement ratio deflated by total deposits for the year $t-1$. LEV is bank's leverage of bank i in year $t-1$, measured by total liabilities of bank i divided by total assets in year $t-1$. LNSIZE is the size of bank i in $t-1$, measured by the natural logarithm of total assets in year $t-1$. DPKGR is the changes of customer deposits of bank i from the second to the third quarter in year t. DPUB is type of bank, measured by a dummy variable, which is given the value of 1 if the bank is public listed on the Indonesian Stock Exchange and 0 if otherwise.
*, ** and *** indicate significance at the 10%, 5% and 1% levels respectively. All variables are tested on one tail, except DPUB and LNSIZE variables are tested on two tails. F significance at alpha 1%

bank size (LNSIZE), growth in the customer deposits (DPKGR), and type of ownership (DPUB) altogether, have a significant effect on the upward-window-dressing of customer deposits (WD_DPK-WD1). Looking at the value of adjusted R^2, these five variables can explain 77.73 per cent of the upward-window-dressing of customer deposits (WD_DPK-WD1) activity, ceteris paribus.

The estimation result of the third model shows that short-term liquidity (LRRR), leverage (LEV), bank size (LNSIZE), growth in the customer deposits (DPKGR), and type of ownership (DPUB) altogether, have a significant effect on the downward-window-dressing of customer deposits (WD_DPK-WD2). These five variables can explain only 4.44 per cent of downward-window-dressing of customer deposits (WD_DPK-WD2) activity, ceteris paribus.

The estimation result of the fourth model shows that long-term liquidity (LDR), leverage (LEV), bank size (LNSIZE), growth in the customer deposits (DPKGR), and type of ownership (DPUB) only have a significant effect on the downward-window-dressing of customer deposits (WD_DPK-WD2). These five variables can explain 4.21 per cent of downward-window-dressing of customer deposits (WD_DPK-WD2), ceteris paribus.

The results extracted from the four models suggest that the motive of window-dressing of customer deposits in conventional commercial banks in Indonesia is better explained by upward-window-dressing of customer deposits measurement (WD_DPK-WD1) rather than downward-window-dressing of customer deposits measurement (WD_DPK-WD2). Further interpretation of the study results are as follows: Firstly, the downward-window-dressing of customer deposits (WD_DPK-WD2) in the first quarter year *t*+1 confirms the upward-window-dressing of customer deposits (WD_DPK-WD1) in the fourth quarter of year *t*. Increasing customer deposits in the fourth quarter of year *t* reflects window-dressing activity and this may be followed by a decline of customer deposits in the first quarter of year *t*+1. Based on the mean value of WD_DPK-WD2 which is greater than WD_DPK-WD1, it can be said that the declining level of customer deposits in the first quarter of year *t*+1 may not be due to the withdrawal of funds by customers who had just deposited their funds in the fourth quarter of year *t*.

Secondly, the result shows that downward-window-dressing of customer deposits (WD_DPK-WD2) occurs after upward-window-dressing of customer deposits (WD_DPK-WD1). Consequently, the

liquidity motive of both types of customer deposits window-dressing cannot be directly tested by just using a single measurement because customer deposits window-dressings occurred consecutively in two different time periods, i.e. the fourth quarter of year t and the first quarter of year $t+1$, albeit in opposite direction.

Thirdly, based on the first model illustrated in Table 4, it is predicted that the LRRR variable has statistically significant negative effect on upward-window-dressing of customer deposits (WD_DPK-WD1) yet, the LDR variable does not have statistically significant negative effect on upward-window-dressing of customer deposits (WD_DPK-WD1). Similar results are found in Model 3 and Model 4 where the liquidity effect on downward-window-dressing is concerned. These results indicate that banks are motivated to conduct window-dressing of customer deposits so as to maintain their short-term liquidity ratio which is aimed at meeting the regulatory requirement of maintaining LDR at the level of at least 5 per cent. This value is consistent with the mean value of LRRR of Indonesian commercial banks which is equal to 6.83 per cent (see Table 2). This finding supports the findings in Billings and Capie's (2009) study that banks are motivated to practise customer deposits window-dressing so as to increase their cash balance of between one to two per cent of the actual cash ratio. Thus, customer deposits window-dressing that is aimed at increasing LRRR tend to occur not only in developed countries but also in developing countries such as Indonesia. The ratio of short-term-liquidity LRRR value is in contrast to the mean value of long-term liquidity LDR value which is 81.35 per cent, a level which falls within the range of between 75 to 85 per cent, the acceptable level of LDR that is required by the regulators, Bank of Indonesia. Accordingly, the banks are categorised as liquid banks hence, they have no strong motive to practise customer deposit window-dressing.

Consistent with the negative effect of LRRR on upward-window-dressing of customer deposits (WD_DPK-WD1), the result shows a similar effect of LRRR on downward-window-dressing. In addition, LDR has no statistically significant effect on downward customer deposits window-dressing, and this too is consistent with the result of the upward-window-dressing of customer deposits. One of the study's implications for users of financial statements is that they should be careful in interpreting the value of short-term bank liquidity ratio (LRRR) as it might not reveal the true conditions of banks' liquidity performance. In addition, the regulator should also be aware of the

possibility of banks violating the maximum value of interest rate when this is used as a strategy to attract customer deposits to window-dress their accounts.

The control variables used in this study namely, leverage, bank size, customer deposits' growth, and bank ownership show inconsistent results in explaining their effect on upward- and downward-window-dressings of customer deposits. Contrary to prediction, leverage has statistically significant negative effect on upward-window-dressing of customer deposits (WD_DPK-WD1). In comparison, leverage has statistically significant positive effect on downward-window-dressing of customer deposits (WD_DPK-WD2).

As predicted, bank size (LNSIZE) has statistically significant negative effect on upward-window-dressing of customer deposits (WD_DPK-WD1) but it shows no statistically significant effect on downward-window-dressing of customer deposits (WD_DPK-WD2). This study also finds that compared to large banks, smaller banks tend to practise customer deposits window-dressing. This occurs probably because smaller banks are more likely to have problems with short-term liquidity.

Figures 1 and 2 below show a comparison of short-term liquidity which is measured by LRRR between large banks and smaller banks by dividing the two groups of samples based on the total value of their assets. The midpoint of total assets value is used to differentiate large banks from the smaller ones. Accordingly, large banks are banks with a total value of assets that is above the midpoint while smaller banks are banks which have a total value of assets below the midpoint. Figures 1 and 2 show that the mean of LRRR is higher for large banks as compared to smaller banks. The value of the LRRR is more varied for large banks while for the smaller banks, the value is close to the mean value. This finding suggests that the motive for window-dressing of customer deposits is to maintain a minimum level of short-term liquidity ratio. In line with political cost hypothesis which predicts that large firms are more likely to reduce reported profit in order to avoid political attention (Watts & Zimmerman, 1978; 1990), the practice of customer deposits window-dressing tend to be applied in smaller banks instead. This might be due to the presence of the monitoring mechanism used by regulators which tend to be stricter on large banks than on smaller ones. Consequently, this puts a limitation on large banks to practise customer deposits window-dressing in their bid to distort the ratio of bank's liquidity.
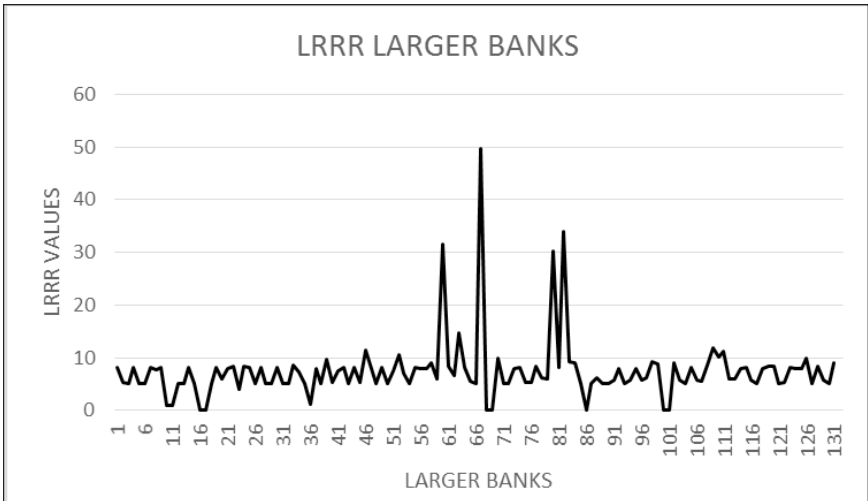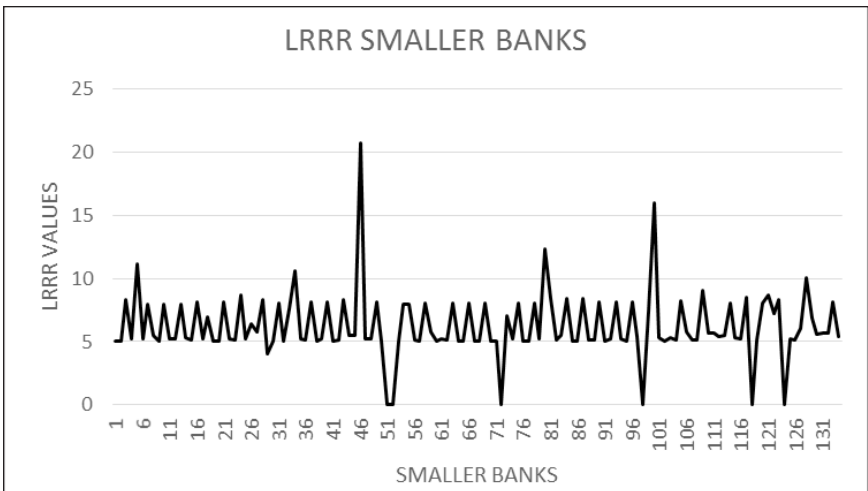
Figure 1:   LRRR between Larger Banks

Figure 2:   LRRR between Smaller Banks

As Figures 1 and 2 illustrate, contrary to prediction, growth in customer deposits (DPKGR) has statistically significant positive effect

on upward-window-dressing of customer deposits (DPK_WD-WD1) but no statistically significant effect on downward-window-dressing of customer deposits (DPK_WD-WD2). The results indicate that a bank practises customer deposits window-dressing not just merely to meet its annual predetermined target of customer deposits but possibly, also to fulfil other incentives such as obtaining a high score from the rating agency (Owen & Wu, 2011).

It can also be seen that bank ownership (DPUB) has statistically significant positive effect on upward-window-dressing of customer deposits (DPK_WD-WD1). However, it shows an opposite effect on downward-window-dressing of customer deposits (DPK_WD-WD2). In this regard, the finding fails to provide any conclusive result which can support the notion that it has any association between bank ownership and customer deposits window-dressing.

In general, the results of this study confirm the indication that bank managers are practising what has been termed as moral hazard behaviour (Jensen & Meckling, 1976) through customer deposits window-dressing. The practice of customer deposits window-dressing is aimed at boosting the bank's liquidity ratio (Billings & Capie, 2009; Yang & Shaffer, 2010) even though such an activity might cause short-term liquidity bias as the accounting numbers presented in the statements may project. It is most likely that this practice will increase information asymmetry between the management and stakeholders with regards to the true liquidity of the banks concerned. The results of this study, in addition, also support the findings of previous studies which focused on customer deposits window-dressing which is aimed for fulfilling regulatory compliance (Owen & Wu, 2011), specifically, to meet liquidity reserve requirement ratio (LRRR) or short-term liquidity requirement.

5. Conclusion

This study investigates the motives of customer deposits window-dressing as practised by conventional commercial banks in Indonesia and has several implications for banks and their stakeholders. With regard to the users of financial statements the results would therefore, enlighten them in the fact that short-term bank liquidity ratio (LRRR) may not necessarily reflect the bank's true liquidity condition. As for the banking regulator, the results imply that banks which practise customer deposits window-dressing might be violating the maximum interest rate limitation since they offer higher interest rates to attract deposits

from their customers. Therefore, banking regulators should develop the necessary measures which can prevent banks from conducting such practices.

Other aspects of the results indicate that the tendency for banks to practise customer deposits window-dressing is higher among smaller banks than large banks. Arguably, this could be attributed to the monitoring mechanism of the bank regulators which tend to be more lenient on smaller banks as compared to larger ones. This indication is consistent with the political cost hypothesis (Watts & Zimmerman, 1978; 1990). As for the other control variables namely, leverage, bank size, growth of customer deposits, and bank ownership, the results of this study indicate that the main motive of banks in practising window-dressing of customer deposits is mainly to maintain short-term liquidity reserve as is required by bank regulators.

The current study has several limitations. First, the limitation of customer deposits window-dressing measurement which has resulted in creating a wide gap of explanatory power between the models as is suggested by the value of adjusted R^2 presented in Table 4. Accordingly, the upward-window-dressing model explains much better than the downward-window-dressing model. This, it is deduced, is most likely due to the inaccuracy of downward-window-dressing of customer deposits measurement which does not capture the withdrawal of funds made by customers who had just deposited their funds in the fourth quarter of the previous period. Therefore, further research should include the withdrawal of such funds in order to increase the accuracy of downward-window-dressing of customer deposits measurements. This could contribute to producing a more consistent set of results of the explanatory power across the models. In addition, the customer deposits window-dressing measurements used in this study are not capable of capturing both upward- and downward-window-dressing simultaneously which is also a reflection of what reality is like. Hence, future research might consider refining the measurements so that they can capture both upward- and downward-window-dressing activities simultaneously.

Secondly, this study assumes that banks offer high interest rates to their customers in order to attract temporary customer funds for window-dressing purposes. Nonetheless, the research method used did not capture the issue. Accordingly, further research should use the over charged interest rates as an indication to show the existence of customer deposits window-dressing as a form of triangulation when investigating

the trend of cost of fund variables during window-dressing period. In addition, further research may also examine the possibility of banks violating the maximum value of interest rate regulation. This issue is important because banks which offer higher interest rates for customer deposits during the period of window-dressing activity may be driven to charge higher interest rates for their loans. Higher interest rates on loans may create higher cost of economy, reduce banks' intermediary function through lending activities, increase banks' credit risk and thereby, hamper economic growth.

Thirdly, the findings of this study are limited to looking at the context of conventional commercial banks using financial factors in Indonesia. Thus, the results cannot be generalised for other regions. Further research could be extended to include other countries by using both financial and non-financial factors such as corporate governance as mechanisms to control customer deposits window-dressing practices in the banking industry.

Notwithstanding the aforementioned limitations, this study contributes to extant literature by providing empirical evidence on the motive of window-dressing on customer deposits in Indonesia. In its approach, this study uses two measurements of customer deposits window-dressing: upward-window-dressing of customer deposits (DPK_WD-WD1) and downward-window-dressing of customer deposits (DPK_WD-WD2). The results show that the motives of banks in practising customer deposits window-dressing is to maintain short-term liquidity ratio (LRRR). However, the results do not support the long-term liquidity motive. The results are also consistent across four models which use both upward- and downward-window-dressing of customer deposits.

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