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Does Maintenance of Short-Term Liquidity Matter to Firm Performance and Value? Evidence from a Panel Data among Publicly Traded Firms in the Philippines

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Abstract

Short-term liquidity enables firms to repay their debts on time and meet their daily operational needs. Liquidity entails a financial trade-off wherein managers must acquire credit to fund their operations. Meanwhile, stakeholders are observing the ability of firms to balance liquidity risk while also meeting their operational objectives. This study determines whether liquidity ratios could affect firm performance and value. The study used 5-year panel data among 78 listed firms in the Philippines. The study found that the current ratio significantly affects the firm's ROE. On the other hand, short-term liquidity does not affect ROA and MPPS. This implies that short-term liquidity affects firm performance but does not affect firm value.

Keywords: *Short-term liquidity, financial performance, firm value, current ratio, quick ratio, defensive interval ratio, ROA, ROE, MPPS*

Introduction

Firms must improve their performance and value to attract investors and maintain good stakeholder relationships. Firms would have to provide value for their investors regarding return and capital appreciation to keep their investments in the firm (Ponikvar et al., 2009). This would

guarantee the firm's continuity and available liquid capital. Aside from investors, customers or clients are also attracted to firms that continuously grow, and their performance is stable because it secures their interests and needs. Firms need investors to finance their operations and customers or clients to make profits. As a firm collects funds from investors and payments from customers, it must give them back value in return. This is a crucial part of the investor-corporate and buyer-seller relationships. If firms would not pursue this, then there would be no reason investors would invest, and customers/clients would avail of the firm's offering. This is because the fundamental reason why they give up money, which is valuable in itself, is to exchange it for something equivalent to the value they gave up and more. Ensuring value will undoubtedly preserve and strengthen a firm's relationship with its investors and customers.

Among the crucial concerns of managers is the planning of the firm's short-term liquidity. Liquidity can be measured in ratios such as the current, quick, and defensive interval ratios. These ratios were essential in improving the firm's performance and value (Rashid, 2018). These ratios complement liquidity management, wherein internal managers can determine their liquidity position and make immediate decisions that could enhance it. These are also useful in working capital planning, in which they can plan for their current assets and liabilities. With better working capital planning, a firm will monitor its liquidity and decide to use its assets and take advantage of liabilities optimally. If there is an excess in the firm's liquidity, the manager must determine the best use for that surplus. Surplus is often less satisfactory than it indicates that resources could be more efficient. If there is a deficit, the manager must find funding sources to ensure adequate resources. In general, mismanagement of short-term liquidity could lead to excessive or lacking liquidity, which is unfavorable (Madushanka & Jathurika, 2018).

Monitoring short-term liquidity enables firms to repay their short-term liabilities,

including operating and financial expenses resulting within the organization in the short term (Durrah et al., 2016). It is fundamental for managers of firms to ensure that their firm will continue its daily operations, including settling short-term debts without strain. Madushanka and Jathurika (2018) support this by saying that managers have a responsibility to ensure the continuous operation of the production cycle inefficiency and solve the short-term financial obligations promptly, as well as enhance the profit level to ensure the firm's prosperity. If firms could effectively manage their liquidity, this could sustain them in the long run and sustain their value and growth. Solomon and Springle (2010) state that whenever one speaks of a firm's liquidity, one measures its ability to meet expected and unexpected cash requirements, expand its assets, reduce its liabilities, or cover operating losses. This implies that adequate liquidity is enough to secure a firm's financial position. Specifically, liquidity management could provide insight and directly affect a firm's financial situation. By monitoring one's liquidity, managers can make informed decisions about a firm's finances. Besides, liquidity ratio analysis shows the weaknesses of a firm's working capital, and managers can use this to implement solutions and turn them into opportunities like profit maximization. Managers can utilize the excess liquidity for growth and expansion when a firm has a high liquidity ratio. Liquidity management makes decisions easy for a firm.

The firm's ability to manage its liquidity ratios would allow it to tap external financing in case of a short-term deficit easily. Short-term creditors will check the company's liquidity before selling goods on credit, and they expect to get money within a short-term period for their selling items (Madushanka & Jathurika, 2018). One way this could be achieved is by displaying operational efficiency. This is because investors and creditors are interested in a firm’s ability to survive in the short term and how it thrives. Investors and creditors are more likely to finance

firms with better liquidity management because their liquidity assures faster profit, interest, and/or payment. Since managers prioritize a firm's liquidity, it stands to reason that a firm can effortlessly convince short-term creditors to sell goods on credit. Take note; external financing does not necessarily mean a firm is incapable of operation. In liquidity management, a firm is simply managing its liquidity efficiently. Therefore, when executed competitively, a firm's liquidity will open many opportunities for choosing the best alternatives among available investment options (Rashid, 2018). Liquidity ratios would signal to short-term creditors that the firm can meet its obligations by comparing the cash and near-cash with the payment obligations. If the latter's coverage by the former is insufficient, the business might face difficulties in meeting its immediate financial obligations. This can, in turn, affect the company's business operations and profitability. The higher the ratio, the easier the ability to clear the debts and avoid defaulting on payments. The ratio likewise informs potential vendors if a company can repay their debt on time based on the most liquid assets, such as cash and marketable securities. Liquidity ratios, therefore, are an excellent tool for the financial analysis of a firm. They indicate the company's overall financial health, with implications regarding its ability to respond to an immediate liquidity crisis.

Short-term liquidity was observed to be important. However, there were limited studies that will link short-term liquidity to firm performance and value. Financial research should find relevant indicators that affect the firms' value. This will bring implications for contemporary managers to be conscious about their liquidity management decisions and ratios. Literature gaps exist in studying liquidity ratios' direct relationship and effect on the firm's value. In light of these, the objectives of the study are:

1. Interpret the liquidity management decision of firms based on the liquidity ratios.

2. Determine the relationship of liquidity ratios to firm value.
3. Determine the effect of liquidity ratios on firm value.

Review of Related Literature

Short-term liquidity metrics can aid firms in monitoring and managing their ability to meet their upcoming obligations and short-term resource efficiency. As a standard, liquidity ratios measure the firm's ability to meet its current obligations (Bolek & Wilinski, 2012). Traditionally, liquidity ratios consist of the current ratio, quick ratio, or acid test. The current ratio is computed by dividing current assets into current liabilities. The quick ratio, on the other hand, or acid-test, is measured by dividing current assets, excluding prepaid expenses and inventory, then dividing the difference into current assets. In this study, another liquidity ratio, the defensive interval ratio, must be utilized. This ratio refers to the period when the company can continue to pay the existing liquidity expenses without obtaining cash flows from outside the company (Alpi, 2018).

Current Ratio

The current ratio measures the company's ability to pay short-term liabilities such as payable accounts and short-term loans, representing the ratio of current assets to current liabilities (Alpi, 2018). This ratio can be interpreted depending on the result. If the current ratio of a firm is 1, this means that current assets equal current liabilities. If the current ratio is more than 1, the firm's current assets are more significant than the liability, which shows that a firm has high liquidity. The opposite is true if the current ratio is under 1, also expressing the deficit of liquidity and the part of the fixed assets financed by short-term debt (Alpi, 2018). However, having a current ratio of over one or under one is not necessarily good or bad, respectively. The managers can interpret high liquidity as the firm not utilizing its assets efficiently, helping them

make informed decisions on what actions to take. Alpi (2018) supports this by saying that this ratio's magnitude expresses the company's high liquidity, thus a greater capacity to meet short-term liabilities. In contrast, he continues, a decrease in the ratio under 1 expresses the deficit of liquidity and the part of the fixed assets financed by short-term debt.

Quick Ratio or Acid-Test

The quick ratio is almost identical to the current ratio. However, the quick ratio is more exact and reliable than the current ratio because it only utilizes the most liquid assets of a firm to measure its liquidity. According to Warrad (2014), the quick ratio is a more stringent measure of liquidity because it does not include inventories and other assets, such as prepaid expenses, that might not be very liquid. This says that the prepaid expenses and inventory are the least liquid current assets. According to Fraser & Ormiston (2004), they are the most likely source of losses. The quick ratio measures how a firm can meet its short-term liabilities using only its most liquid assets. This could also measure how fast a firm can meet its short-term obligations and how long it can convert its assets into cash. The higher the ratio value, the more liquid a firm is. According to Adela (2012), a high value of this ratio means that the firm has high liquidity and is often favorable but is industry-dependent.

Defensive Interval Ratio

The defensive interval ratio measures and explicitly determines how long a firm can keep operating using only its liquid assets. As a result, the defensive interval ratio is usually expressed in days. This ratio refers to the period when the company can continue to pay the existing liquidity expenses without obtaini n g cash flows from outside the company (Alpi, 2018). The required variables in this ratio are the current assets and the daily operating expenses or expenditures. This ratio helps portray a company's financial health picture because analysts can

immediately predict its survival when it is not facing any difficulty (David et al., 2007). A high defensive interval ratio, like the current and quick ratio, is favorable, but too high can also mean the firm's capital is not being used efficiently. Thus, with the guide of other ratios, the defensive interval ratio can help analysts determine what assets to utilize more. This ratio helps managers determine how long a firm can survive without profit, especially for seasonal firms.

Firm Value Indicators

Market Price per Share (MPPS)

The MPPS share or the stock/share price is the most common firm value indicator. According to Sudirman et al. (2020), owners' and stockholders' prosperity is reflected in the MPPS. A share price is the value of a single stock of a firm that fluctuates depending on its demand and supply. The stock price that investors expect is a stable stock price with a movement pattern that tends to rise over time, but the stock price tends to fluctuate (Ercegovac et al., 2020; Suryana & Anggadini, 2018). The share price could be more stable because it materially depends upon the perceived value of buyers and sellers (Warrad, 2015). It all depends on the strength of the market. According to Suryana and Anggadini (2018), if a stock is over-demanded, the stock price will tend to rise. Otherwise, the stock price tends to fall.

Return on Assets

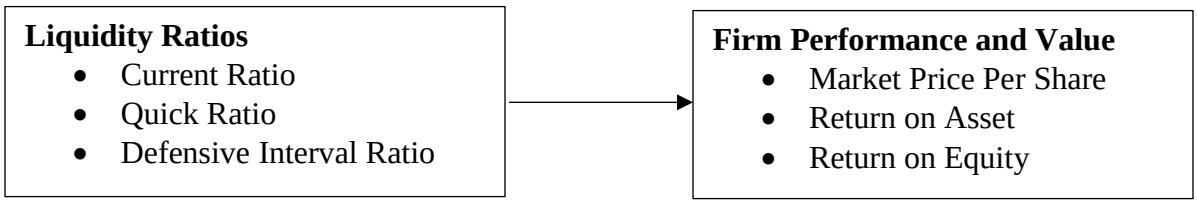
The ROA indicates the firm's ability to generate income from utilizing its assets (Novyarni & Permana, 2020). Return on assets is an internal factor used to measure the effectiveness of the company in generating profits with the use of assets owned. A high return on assets indicates how well the companies manage the assets to bring profit for each dollar (peso) asset invested in the company (Hutabarat et al., 2018). ROA is a profitability ratio that indicates the company's ability to generate profits from the total asset owned efficiently. The greater the

mean performance of the company's ROA, the better profitability of the company because the rate of return increasingly generates profits versus the relatively small assets (Ang, 2001). An increasing ROA shows that the better the performance of the company and its shareholders may benefit from the increased capital gain and/or dividends received. A higher ROA value indicates better company performance because of a higher return on investment rate, which reflects the firm's return on its assets. Rosikah et al. (2018) found that ROA is not the best-fit measure for assessing the company's financial stability in the long term, but it is effective in monitoring its performance in the short term. They proved that ROA is vulnerable to changes in a company's financial condition, especially in revenues, income, and assets.

Return on Equity (ROE)

The ROE indicates the firm's ability to profit from the shareholders' money invested (or equity). ROE tells what percentage of profit the company makes for every monetary unit of equity invested in the company (Djalil & Tabrani, 2016). ROE does not specify how much cash will be returned to the shareholders since that depends on the company's decision about dividend payments and how much the stock price appreciates. However, it is a good indication of whether the company can generate a return worth whatever risk the investment may entail (Rosikah et al., 2018). ROE is a measure of earnings (income) available for the owners of the company (both ordinary shareholders and preferred shareholders) on the capital they invest in the company (Fávero & Belfiore, 2011). In general, of course, the higher the return or income earned, the better the position of the company owner. ROE shows the profitability of own capital, often called the business's profitability.

Framework



Methodology

Research Design

The study used a quantitative approach using a 5-year panel data study to establish whether maintenance of liquidity matters to publicly listed firms in the Philippines. This study used panel data from 87 publicly listed firms in the Philippines with a complete and balance data set. The selection criteria are in terms of the completeness of the data for the independent variables: current ratio (CR), Quick Ratio (QR), and defensive interval ratio (DIR), and for the dependent variables: return on asset (ROA), return on equity (ROE) and market price per share (MPPS). The study is a 5-year panel data that accounts for 2015 to 2019. The years 2020 and 2021 were not included due to incomplete data from the 87 firms. The data were obtained from August to October of the year 2021.

Treatment of the Data

The data for DIR and MPPS were transposed in their natural logarithmic form (***ln***) based on the number e where e=2.7183 to minimize the non-normality of the data since they are expressed in a number of days and monetary terms. Natural logarithm was used to directly interpret the coefficients as approximate in proportional differences (Gelman & Hill, 2007). Afterward, the data were subjected to normality and multicollinearity tests. The Shapiro-Wilk Test was used to test for normality, and the results suggest the non-normality of the variables at a 0.05 significance level. The multicollinearity of the variables was determined using the variance

inflation factor (VIF) and found no multicollinearity issues (VIF<5). In conducting panel data, rigorous tests must be conducted to generate unbiased results. Panel data analysis can be done through static or dynamic panel data.

Econometric Modelling

There are three (3) models in static panel data analysis, namely: (1) pooled ordinary least squares (OLS); (2) fixed effect; and (3) random effect. Using the asset management indicators, the static models are presented as:

Pooled OLS:

$$Y^{g} = \alpha + \beta_1 QR_1 + \beta_2 CR_2 + \beta_3 \ln DIR_3 + \varepsilon \quad (1)$$

Fixed Effect:

$$Y_{it}^{g} = \alpha_{it} + \beta_1 QR_{1it} + \beta_2 CR_{2it} + \beta_3 \ln DIR_{3it} + \varepsilon_{it} \quad (2)$$

Random Effect:

$$Y_{it}^{g} = \alpha_{it} + \mu_{it} + \beta_1 QR_{1it} + \beta_2 CR_{2it} + \beta_3 \ln DIR_{3it} + \varepsilon_{it} \quad (3)$$

The listed firm in the Philippines is denoted by ***i***, year is **t**, and firm performance and value measures are Y^{g} with g = ROA, ROE, and MPPS. The independent variables are quick ratio (QR), current ratio (CR), and defensive interval ratio (DIR).

The dynamic panel regression model was considered in the study in which the lagged (T-1) of dependent variables are included as independent variables. The modified model from its static form into the dynamic model is specified as follows:

$$Y_{it}^{g} = \alpha_{it} + \beta\, Y_{it-1}^{g} + \delta_1 QR_{1it} + \delta_2 CR_{2it} + \delta_3 \ln DIR_{3it} + \varepsilon_{it} \quad (4)$$

Where $\boldsymbol{Y_{it}^{g}}$ refers to the firms' performance and value indicators of the listed firms at a point in time, $\boldsymbol{\alpha}$ is the intercept, $\boldsymbol{\beta}$ is the slope of coefficient (short-run effect of Y_{it-1}), **δ** is the

slope coefficient of the independent variables, **μ** is the individual specific effects, and **ε** is the error term. However, as Nickel (1981) points out, equation (4) leads to biased estimators since fixed-effect estimators are inconsistent and are associated with the error component, which violates the strong condition of the homogeneity of fixed estimators. As a result, instrumental variables must be used to address endogeneity and inconsistent estimators. As a result, Anderson and Hsiao (1981) defined earlier lag as instrumental factors such as the dependent variable's first or second difference. Although their proposal may be feasible, Arellano and Bond (1991) later stated that it is asymptotically inefficient since it does not take advantage of general moment conditions.

Arellano and Bond (1991) developed the dynamic panel data (DPD) into the Generalized Method of Moments (GMM), which tries to capture all available information by adding additional lags of the dependent variables as instrument variables. The GMM employs a two-stage estimator, with the first stage assuming homoscedasticity and independence of the error term. The second step uses the residuals from the first two stages to calculate estimates, ignoring the assumptions of homoscedasticity and independence (Khadraoui & Smida, 2012). Later, Arellano-Bover (1995) and Blundell and Bond (1995) introduced changes to the Arellano-Bond DPD estimator (1998). The modification included lagged levels as well as lagged differences. The original estimator is called *difference GMM*, while the expanded estimator is called the *system GMM*. The difference is that GMM transforms the data by removing the fixed effects to resolve endogeneity, and also, the system GMM resolves endogeneity, heteroscedasticity, and autocorrelation. By adopting the GMM equations, I formulated the equations as follows:

First difference equation:

$$\Delta Y_{it}^{g} = \alpha \Delta Y_{it-1}^{g} + \beta_1 \Delta QR_{1it} + \beta_2 \Delta_{ln} CR_{2it} + \beta_3 \Delta lnDIR_{3it} + \Delta \varepsilon_{it} + \gamma \Delta \varepsilon_{it-1} \quad (5)$$

The difference GMM suggests that the farthest lag of ε_{it} is $\varepsilon_{it-2;}$ however, if exclusion criteria could not be met, the system GMM could expand the equation to lags of three or greater. The Sargan (1958) test will be used primarily to determine whether or not the instruments utilized are uncorrelated with the residuals. Thus the additional moment conditions for the equation would be:

$E[\Delta Y_{it-1}^{g}\ \mu_{it}] = 0$ where $\mu_{it} = \eta i + v_{it}$

$E[\Delta Y_{it}^{g}\ \mu_{it}] = 0$

Autocorrelation and Heteroscedasticity Tests

The autocorrelation tests of the residuals are another essential diagnostic of GMM estimation. The difference equation's residuals are assumed to have serial correlation, but the differenced residuals should not have significant AR (2). If AR(2) is insignificant in the first-difference regression, the results are validated because there is no second-order serial correlation.

Discussion of Results

This research looked into the impact of liquidity ratios on the firms' performance and value. Panel data analysis was used in this work to quantify the influence of liquidity ratios on ROA, ROE, and lnMPPS using a static and dynamic approach. Various tests were undertaken using static and dynamic panel data to assess the validity of the regression models, including tests for multicollinearity, normality, heteroscedasticity, and autocorrelation.

Table 1

Descriptive Statistics, Normality, and Multicollinearity Tests of the Data

Dec. Stat.	QR	CR	DIR	lnDIR	ROA	ROE	MPPS	lnMPPS
Mean	0.9999	1.707	3,561	5.220	0.0903	0.1364	107.40	2.900
St. Dev.	0.7755	0.9818	30,103	3.158	0.3196	0.1092	300.60	1.761
Maximum	9.26	9.816	621,000	13.34	4.60	0.6632	2,229	7.709
Minimum	0.0140	0.1233	0.01	-4.605	(0.095)	(0.195)	0.39	-0.9416
Observations	435	435	435	435	435	435	435	435
Shapiro-Wilk	0.704	0.856	0.067	0.934	0.375	0.974	0.163	0.860
P-value	0	0	0	0	0	0	0	0
Normality	No	No	No	No	No	No	No	No

Table 1 presents the variables' means, standard deviations, maximum, and minimum. The mean value of the firm's quick ratio (QR) is 0.9999, which indicates that the firms' most liquid (quick) assets are almost equal to their maturing debts. The mean value of the current ratio is 1.707, which indicates that the firms have more than adequate current assets that can cover the firms' current liabilities. The defensive interval ratio has a mean value of 3,561, indicating that the firms can repay their daily operating expenses up to 3,561 times using their current assets. The firms' liquidity positions are adequate to repay their maturing debts and daily recurring expenses.

Regarding firm performance, the mean value of the return on assets is 9.03%, which indicates that the firms can generate returns from their assets. In terms of return on equity, the mean value is 13.64%, which indicates that the firm was able to generate a return on every Philippine peso investment of the shareholders. The mean value of the firms' market price per share (MPPS) is 107.40 (in Philippine peso) with a standard deviation of ±300.60, which indicates that the firms' MPPS has the potential to increase in value if the firms would have

favorable prospects and vice versa. The descriptive results affirm the study of Durrah et al. (2016), which states that liquidity is essential for firms to operate daily efficiently and effectively, including settling short-term debts without strain. Meanwhile, it also supports the study of Madushanka and Jathurika (2018), which states that mismanagement of liquidity leads to excessive or unfavorable liquidity.

The results of the Shapiro-Wilk tests indicate that the data from publicly traded companies are not normal. Moreover, a multicollinearity test using the variance inflation factor (VIF) was used, and it indicated that QR (VIF=1.7458), CR (VIF= 1.7275), and lnDIR (1.0752) have no multicollinearity issues.

Analysis of the Static Panel Data Estimations

This section presents the regressions estimates' results using static panel's data models such as pooled OLS, random effect, and fixed effect. Table 2 presents the estimates for ROA, table 3 for the estimates of ROE, and Table 3 for lamps.

Table 2

Static Panel Data Estimate for the ROA Model

Var.	Pooled OLS		Random Effect		Fixed Effect	
	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
Const	0.0894	0.0199***	0.0748	0.1346	0.0206	0.8362
QR	-0.0125	0.6327	-0.0015	0.9614	0.0097	0.8369
CR	0.0045	0.8286	0.0061	0.8175	0.0157	0.7505
lnDIR	0.0011	0.8199	0.0013	0.8472	0.0064	0.7025
S.E. of Regression		0.3206		0.3204		0.2796
Adj. R-squared		-0.0063		-		0.0027
Observations		435		435		435

Table 3

Static Panel Data Estimate for the ROE Model

Var.	Pooled OLS		Random Effect		Fixed Effect	
	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
Const	0.1076	0.000***	0.1182	0.000***	0.1239	0.000***
QR	-0.0056	0.5291	-0.0025	0.7884	0.0022	0.8397
CR	0.0138	0.0493*	0.0045	0.6127	-0.0030	0.7925
lnDIR	0.0021	0.2135	0.0025	0.3222	0.0029	0.4445
S.E. of Regression		0.1088		0.1089		0.0646
Adj. R-squared		0.0082		-		0.0018
Observations		435		435		435

Table 4

Static Panel Data Estimate for the lnMPPS Model

Var.	Pooled OLS		Random Effect		Fixed Effect	
	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
Const	3.5158	0.000***	3.0653	0.000***	3.0689	0.000***
QR	0.4398	0.001***	0.0448	0.4423	0.0076	0.8966
CR	-0.8096	0.000***	-0.0544	0.3689	0.0004	0.9948
lnDIR	0.0626	0.014***	-0.0224	0.2557	-0.0339	0.1017
S.E. of Regression		1.6416		1.7605		0.3475
Adj. R-squared		0.1305		-		0.0077
Observations		435		435		435

The static panel data analysis in Table 2 shows that the ROA is unaffected by the liquidity ratios. This means that the ability of the firms to generate a return from their assets is unaffected by liquidity ratios, and several factors could explain the level of the firms' ROA. In Table 3, the result of the pooled OLS shows that the current ratio can positively affect the firms' ROE. This means that when the firms have adequate current assets to repay their maturing debts, they would have a greater position to improve the earnings for the shareholders. As observed further in Table 4, the liquidity ratios can affect the MPPS of the firms. This means that liquidity ratios in the firm's MPPS have a pooled effect, which can considerably impact the increase and

fall in the market value of the shares. The QR and proportional change in the DIR can favor the proportional change in the MPPS, while the CR can have a negative impact.

The results of the pooled OLS support the findings of Alshatti (2015), who determined that an increase in the current ratio can lead to an increase in the firms' performance that consequently improves the firms' ROE. Moreover, the result corroborates the study of Bolek and Wilinski (2012), who found that the quick ratio can improve and increase the firms' market value. Accordingly, the firms' liquidity can influence profitability, which attracts investors to the firms. Regarding the positive effect of DIR, it affirms the findings of Carpenter (1981), who found that DIR has a positive effect on MPPS because they are superior measure of liquidity and cover daily expenditures.

Autocorrelation and Heteroscedasticity Testing

Testing for autocorrelation and heteroscedasticity was done to validate the results of the static panel data. The Wooldridge test was used to determine autocorrelation, given the null hypothesis of "no first-order autocorrelation." White's test was employed for pooled OLS heteroscedasticity testing, with a null hypothesis of "heteroscedasticity not present." The Wald test for heteroscedasticity was employed for FE, with the null hypothesis being that "the units have a common error variance."

Table 5

Autocorrelation and Heteroscedasticity testing for the Static Panel Data Models

	Pooled OLS	Fixed Effect	Random Effect
Wooldridge Test			
Model: ROA	t(86)= 12.6979; p-value= 2.01e-053	F(1,86)= 17.2113 p-value= 7.827e-005	F(1,86)=17.2113; p-value= 7.82e-005
Model: ROE	t(86)= 9.4251; p-value= 6.71e-015	F(1,86)= 3.3234 p-value= 0.07178	F(1,86)=3.32335; p-value= 0.0718
Model: lnMPPS	t(86)= 78.9246; p-value= 5.0515e-082	F(1,86)= 118.64 p-value= 7.23e-018	F(1,86)=118.64; p-value= 7.23e-018
Heteroskedasticity Test			
Model: ROA	White's Test: LM= 8.82247; p-value= 0.4538	Wald Test: Chi-square(87)= 5.97e+010; p-value= 0	-
Model: ROE	White's Test: LM= 42.6364; p-value= 2.5133e-006	Wald Test: Chi-square(87)= 5.94e+006; p-value= 0	-
Model: lnMPPS	White's Test: LM= 73.9372; p-value= 2.5612e-012	Wald Test: Chi-square(87)= 1.30e+006; p-value= 0	-

The autocorrelation tests reveal that the pooled OLS for ROA, ROE, and lnMPPS models have an autocorrelation problem. The autocorrelations test for the fixed effect and random effect models presents that the ROA and lnMPPS models have an autocorrelation problem, while the ROE has no autocorrelation problem. The conducted heteroscedasticity tests for the pooled OLS shows heteroscedasticity problems, although fixed and random effects models show no problems. Because of autocorrelation and heteroscedasticity issues, the results of static panel data are inaccurate (Habimana, 2016), and estimations are biased and inconsistent. The results were proven to be consistent with the methodologies' flow and to rule out any inconsistencies in the static panel data models.

Analysis of the Dynamic Panel Data Estimations

The study will therefore concentrate on the result of the DPD estimations. Historical results of EPS, NPM, and MPPS and current results of asset management indicators can influence the firm's performance and value. The dynamic panel regression estimates are presented in this part using the 1-step and 2-step GMM-DIFF, where the 1-step is the initial regression that is still meaningful even in the presence of heteroscedasticity. In contrast, the 2-step has reduced asymptotic errors, improving efficiency. The GMM-DIFF values are validated by the results of AR (1&2) and the Sargan tests. The GMM-SYS will be utilized to increase the efficiency of the estimates.

Table 6

Dynamic Panel Data Estimate for the ROA Model

Var.	GMM-DIFF				GMM-SYS			
	1-Step		2-Step		1-Step		2-Step	
	Coeff.	p-val.	Coeff.	p-val.	Coeff.	p-val.	Coeff.	p-val.
ROA(T-1)	0.4000	0.00***	0.4010	0.3309	0.3807	0.000***	0.3818	0.00***
QR	0.0314	0.4192	0.0341	0.3213	-0.0047	0.9112	-0.0059	0.8735
CR	0.0336	0.6455	0.0301	0.4410	0.0584	0.1766	0.0594	0.1843
lnDIR	0.0181	0.4237	0.0186	0.2937	0.0081	0.7114	0.0085	0.7198
Const	-0.004	0.6503	-0.0019	0.058*	-0.0930	0.4754	-0.0974	0.5191
S.E.		0.3590		0.3592		0.2161		0.2164
I.V.		37		37		40		40
Obs.		261		261		348		268
AR(1)	z= -1.22	0.2223	z= -1.32	0.1865	z= -1.21	0.2276	z= -1.32	0.1885
AR(2)	z= 1.24	0.2134	z= 1.08	0.2780	z= 1.18	0.2382	z= -1.02	0.3054
Sargan	Chi(32)= 209.34	0.000	Chi(32)= 30.20	0.5577	Chi(35)= 585.92	0.000	Chi(35)= 37.95	0.3365
Wald Test	Chi(4)= 51.15	0.000	Chi(4)= 55.04	0.000	Chi(4)= 191.95	0.000	Chi(5)= 173.56	0.000

Table 7

Dynamic Panel Data Estimate for the ROE Model

Var.	GMM-DIFF				GMM-SYS			
	1-Step		2-Step		1-Step		2-Step	
	Coeff.	p-val.	Coeff.	p-val.	Coeff.	p-val.	Coeff.	p-val.
ROE(T-1)	-0.1567	0.2122	-0.1615	0.1955	0.1199	0.4818	0.1031	0.6002
QR	0.0009	0.9700	-0.0050	0.8283	-0.0247	0.4832	-0.0200	0.6166
CR	-0.0070	0.7994	0.0098	0.7399	0.0675	0.0323**	0.0646	0.0770*
lnDIR	0.0218	0.2378	0.0169	0.4012	0.0030	0.8878	-0.0019	0.9255
Const	-0.0036	0.3423	-0.0022	0.3798	0.0448	0.6906	0.0409	0.7274
S.E.		0.0717		0.0710		0.1095		0.1099
I.V.		37		37		40		40
Obs.		261		261		348		348
AR(1)	z= -1.00	0.3153	z= -0.61	0.5437	z= -1.29	0.1968	z= -1.92	0.4380
AR(2)	z= -1.62	0.1044	z= -1.46	0.1438	z= -1.63	0.5317	z= -1.12	0.4648
Sargan	Chi(32)= 101.47	0.000	Chi(32)= 34.21	0.3618	Chi(35)= 113.12	0.000	Chi(35)= 49.28	0.0553
Wald Test	Chi(4)= 3.14	0.5349	Chi(4)= 3.02	0.5546	Chi(4)= 6.51	0.1639	Chi(4)= 5.21	0.2666

Table 8

Dynamic Panel Data Estimate for the lnMPPS Model

Var.	GMM-DIFF				GMM-SYS			
	1-Step		2-Step		1-Step		2-Step	
	Coeff.	p-val.	Coeff.	p-val.	Coeff.	p-val.	Coeff.	p-val.
lnMPPS(T-1)	0.0437	0.5595	0.0792	0.537	0.4362	0.00***	0.4454	0.00***
QR	0.0352	0.8133	0.0123	0.483	0.0441	0.745	0.0061	0.959
CR	-0.0621	0.7607	-0.0165	0.626	-0.065	0.741	0.0103	0.954
lnDIR	0.0561	0.1601	0.0511	0.518	-0.094	0.194	-0.0960	0.242
Const	-0.0025	0.8925	0.0010	0.254	2.2081	0.0019	2.1103	0.009***
S.E.		0.3696		0.3773		1.0818		1.0866
I.V.		37		37		40		40

Obs.		261		261		348		348
AR(1)	z= -1.49	0.9454	z= -0.23	0.8158	z= -2.12	0.0338	z= -2.27	0.0230
AR(2)	z= 1.41	0.5721	z= -0.62	0.5365	z= -1.42	0.1570	z= -1.44	0.1512
Sargan	Chi(32) = 60.19	0.0019	Chi(32) = 48.79	0.0291	Chi(35) = 22.19	0.9545	Chi(35) = 53.57	
Wald Test	Chi(4)= 2.18	0.7027	Chi(4)= 3.02	0.5544	Chi(4)= 34.83	0.000	Chi(4)= 31.50	

The results of the dynamic panel data analysis in Table 5 present that the ROA is unaffected by the liquidity ratios, and mainly, the ROA can be influenced by its historical performance. This means that the liquidity ratios do not affect the firm's ability to generate a return from their assets, and several factors could explain the changes in the firms' ROA. In Table 6, the GMM-SYS in the 1-step and 2-step provide consistent results that the current ratio is a relevant liquidity ratio that could positively affect the firms' ROE. The results indicate that when the firms have adequate current assets to repay their maturing debts, they would have a greater position to improve the earnings for the shareholders. Lastly, the dynamic panel data analysis on the effect of liquidity ratios presents that they are not relevant in the proportional changes in the firms' MPPS, but rather, the MPPS is affected mainly by its historical movements. The result corroborates the study of Alpi (2018), who found that the current ratio positively affects ROE, whereby the current assets owned by the firm contribute to an increase in the returns generated for the shareholders. Accordingly, the higher the current ratio, the higher the funds committed to generating profit, leading to better financial performance.

Conclusions

This study aims to determine whether short-term liquidity matters to firm performance and value. The study concludes that short-term liquidity can influence firm performance, as observed in the effect of the current ratio on ROE. However, short-term liquidity does not affect

ROA and the MPPS. The study brings a practical implication: if financial managers intend to improve the return to shareholders regarding ROE, they should focus on maintaining adequate levels of the current ratio. Meanwhile, if the firms intend to improve the firms' ROA and MPPS, they should consider other relevant factors that could affect these performance and value indicators and also keenly observe the historical trend patterns of these indicators.

References

Alpi, M. (2018). *The Influence of the Debt to Equity Ratio, Inventory Turnover, and Current Ratio against the Return on Equity in the Pharmaceutical Sector Companies*. The 11th International Workshop and Conference of ASEAN Studies in Linguistics, Islamic and Arabic Education, Social Sciences and Educational Technology, pp. 758–767. https://osf.io/wqzxv/download

Alshatti, A. S. (2015). The effect of liquidity management on profitability in the Jordanian commercial banks. *International Journal of Business and Management, pp. 10*, 62–72. https://www.ccsenet.org//journal/index.php/ijbm/article/view/41873

Anderson, T.W. & Hsiao, C. (1981). Estimation of dynamic models with error components. *Journal of American Statistical Association, pp. 76*, 598–606.

Ang, R. (2001). Buku Pintar Pasar Modal Indonesia. Media Soft Indonesia.Riyanto, Bambang. *Dasar-Dasar Pembelanjaan Perusahaan. Yogyakarta: BPFE*.

Arellano, M. & Bond, S. (1991). Some tests specification for panel data: Monte Carlo evidence and application to employment equations. *The Review of Economic Studies*, *58* (2), 277-297.

Arellano, M. & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, *68*, 29-51.

Bolek, M. & Wilinski, W. (2012). The influence of liquidity on the profitability of Polish construction sector companies. *Financial Internet Quarterly*, *8*(1), 77-89

Blundell, R. & Bond, S. (1995). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, *87*, 115-143.

Carpenter, J.R. (1981). *The use of defensive intervals in corporate failure prediction and auditors.* https://vtechworks.lib.vt.edu/bitstream/handle/ 10919/74809/LD5655.V856_1981.C376.pdf?sequence=1&isAllowed=y

David, V., Jeffrey Q., & David O. (2007). A modified price-sales ratio: A useful tool for investors? *Journal of Business & Economics Research, 5*(12). https://www.clutejournals.com/index.php/JBER/article/view/2613/2659

Djalil, M. & Tabrani, M. (2016). The effect of earnings per share, book value, and systematic risk on equity valuation in manufacturing companies listed on the Indonesian Stock Exchange for the Years 2011-2014. *25th International Academic Conference.* https://doi.org/10.20472/ IAC.2016.025.016.

Durrah, O., Rahman, A., Aziz, A., Syed Ahsan, J., & Ghafeer, N. (2016). Exploring the relationship between liquidity ratios and indicators of financial performance: An analytical study on industrial food companies listed in Amman Bursa. *International Journal of Economics and Financial Issues, 6*. 435-441.

Ercegovac, R., Pecaric, M., & Klinac, Ivica. (2020). what determines the price-to-book ratio in the European Banking Sector? *Journal of Economics and Finance, 70,* 262-280.

Fávero, L. & Belfiore, P. (2011). Cash flow, earnings ratio and stock returns in emerging global regions: Evidence from longitudinal data. *Global Economy and Finance Journal, 4*(1), 32-43.

Gelman, A. and Hill, J. (2007). *Data Analysis using Regression and Multilevel/ Hierarchical Models*, Cambridge University Press, New York.

Habimana, O. (2016). Do flexible exchange rates facilitate external adjustment? A dynamic approach with time-varying and asymmetric volatility. *International Economics and Economic Policy*.

Hutabarat S., Fitrawaty. & Nugrahadi E. (2018, March). An analysis of asset Growth profitability and capital structure effect through risk on price to book value (PBV) in banking companies, Indonesia. *International Journal of Business and Management Review, 6*(2), 29-44.

Khadraoui, N. and Smida, M. (2012). Financial development and economic growth: Static and dynamic panel data analysis. *International Journal of Economics and Finance, 4* (5), 94-104.

Madushanka, K. & Jathurika H. (2018). The impact of liquidity ratios on profitability (With special reference to Listed Manufacturing Companies in Sri Lanka). *International Research Journal of Advanced Engineering and Science, 3*(4), 157-161.

Nickell, S. (1981). Biases in dynamic models with fixed effects. *Econometrica, 49* (6), 1417-1426.

Novyarni, N. & Permana, R. (2020). Company listed in the LQ45 on Indonesian Stock Exchange). *Advances in Economics, Business and Management Research, p. p. 27.* https://doi.org/10.2991/aebmr.k.200309.010.

Ponikvar, N., Tajnikar, M., & Pusnik, K. (2009). Performance ratios for managerial decision-making in a growing firm. *Journal of Business Economics and Management, 10*(2), 109.

Rashid, C. (2018). The efficiency of financial ratios analysis for evaluating companies' liquidity. *International Journal of Social Sciences & Educational Studies, p. 4.* https://doi.org/10.23918/ issues.v4i4p110

Rosikah, P., Muthalib, A., & Rohansyah M. (2018). Effects of return on asset, Return on equity, earning per share on corporate value. *The International Journal of Engineering and Science, 7*(3), 06–14. http://dx.doi.org/10.9790/1813-0703010614

Sargan, J. D. (1958). The estimation of economic relationships using instrumental variables. *Economometrica, 26* (3), 393-415.

Sudirman S., Abdullah, M. & Obie, M. (2020). The effect of current and debt to asset ratios on net profit margin and stock prices: A study of basic industry and chemicals companies. *International Journal of Scientific Research in Science and Technology, 7*(5), 282-294. https://doi.org/10.32628/IJSRST207561.

Suryana, N. & Anggadini, S. (2020). Analysis of stock prices affected by current ratio. *International Journal of Science, Technology & Management, 1,* 190-197. https://doi.org/10.46729/ ijstm.v1i3.44

Warrad, L. (2014). The impact of liquidity through quick ratio on share price: Evidence from Jordanian Banks. *European Journal of Accounting Auditing and Finance Research, 2*(8), 9–14.

Warrad, L. (2015). Return on asset and return on equity effects of the net operating cycle: Jordanian Study. *Research Journal of Finance and Accounting, pp. 6,* 89–95.

Yahaya, O. & Alkasim, A. (2020). Market valuation measures and the share price of listed insurance firms in Nigeria. *Nigerian Journal of Accounting and Finance, 12*(2), 92-108.