

Investigating Liquidity-Profitability Relationship in Business Organizations: A Study of Selected Quoted Companies in Nigeria

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ABSTRACT

This study has investigated the relationship between liquidity and profitability in selected quoted companies in Nigeria. The central objective was to examine the nature and extent of the relationship between liquidity and profitability in profit-driven quoted companies and also to determine whether any cause and effect relationship existed between the two performance measures. Liquidity measure considered was current assets- liabilities ratio while profitability measure was operating profit-turnover ratio. Investigative and quantitative analysis methods were used for the study. Analysis was based on data extracted from annual reports and accounts of the companies for the relevant period. Correlation and regression analysis respectively were employed to examine the nature and extent of the relationship between the variables and determine whether any cause and effect relationship between them. A model of perceived functional relationship was specified, estimated and evaluated. Estimation was via the OLS technique, while evaluation was based on relevant statistics of regression result. The results showed that while a trade-off existed between liquidity and profitability in the banking company, the two variables were positively correlated and also reinforced each other in the other companies. While each company sustained some level of liquidity at zero profitability, only the banking and manufacturing firms could sustain some level of profitability at zero liquidity. The performance measures exerted negative but insignificant effect on, and exhibited weak explanatory power in explaining changes in, each other. They exerted significant positive effect on, and strongly explained changes in, each other in processing firm. In the manufacturing firm, they exerted positive but insignificant effect on, and exhibited weak explanatory power in explaining changes in, each other. Consequently, the study recommended, among other things, that banks should always strike a balance between liquidity and profitability to satisfy regulatory requirements as well as shareholders' wealth aspirations; manufacturing outfits should pursue profit maximization since so doing simultaneously enhances liquidity; while processing outfits should always ensure adequate liquidity, especially raw material inputs, since it seemed necessary to remain in operation. However, the findings of this paper are based on a study conducted on the selected companies. Hence, the results are not generalisable to non-quoted companies. Secondly, the sample comprises banking, manufacturing and processing companies. Therefore, the results are valid for those industries.

Key Words: Liquidity, Profitability, Relationship, Quoted companies

1. Introduction

Liquidity is a precondition to ensure that firms are able to meet its short-term obligations. The liquidity position in a company is measured based on the 'current ratio' and the 'quick ratio'. The current ratio establishes the relationship between current assets and current liabilities. Normally, a high current ratio is considered to be an indicator of the firm's ability to promptly meet its short term liabilities. The quick ratio establishes a relationship between quick or liquid assets and current liabilities. An asset is liquid if it can be converted into cash immediately or reasonably soon without a loss of value. Low liquidity leads to the inability of a company to pay its creditors on time or honour its maturing obligations to suppliers of credit, services and goods. This could result in losses on account of non-availability of supplies and lead to possible insolvency. Also, the inability to meet the short term liabilities could affect the company's operations and in many cases it may affect its reputation as well. Inadequate cash or liquid assets on hand may force a company to miss the incentives given by the suppliers of credit, services, and goods as well. Loss of such incentives may result in higher cost of goods which in turn affects the profitability of the business. Every stakeholder has interest in the liquidity position of a company. Suppliers of goods will check the liquidity of the company before selling goods on credit. Employees should also be concerned about the company's liquidity to know whether the company can meet its employee related obligations, i.e., salary, pension, provident fund, etc. Thus, a company needs to maintain adequate liquidity.

Profitability is a measure of the amount by which a company's revenues exceeds its relevant expenses. Profitability ratios are used to evaluate the management's ability to create earnings from revenue-generating bases within the organization. The 'profitability position' of a company is measured using the 'gross profit margin' and the 'net profit margin'. The gross profit margin is an indicator of the profit a business makes on its cost of sales, or cost of goods sold. It is the profit earned before any administration costs; selling costs and so on are removed. The net profit margin is an indicator of the amount of net profit per naira of turnover a business has earned. That is, after taking account of the cost of sales, the administration costs, the selling and distributions costs and all other relevant costs, the net profit is the profit that is left, out of which the company will have to pay interest, tax, dividends and so on. A profit ratio indicates how effectively management can make profits from sales. It also indicates how much room a company has to withstand a downturn, fend off competition and make mistakes. Potential investors are interested in dividends and appreciation in market price of stock, so they focus on profitability ratios. Managers, on the other hand, are interested in measuring the operating performance in terms of profitability. Hence, a low profit margin would suggest ineffective management and investors would be hesitant to invest in the company.

Thus, a financial manager has to ensure, on one hand, that the firm has adequate cash to pay for its bills, has sufficient cash to make unexpected large purchases and cash reserve to meet emergencies, while on the other hand, he has to ensure that the funds of the firm are used so as to yield the highest return. This poses a dilemma of maintaining liquidity or profitability.

The liquidity and profitability goals conflict in most decisions which the finance manager makes. For example, if higher inventories are kept in anticipation of increase in prices of raw materials, profitability goal is approached, but the liquidity of the firm is endangered. Similarly, the firm by following a liberal credit policy may be in a position to push up its sales, but its liquidity decreases. Similarly, there is a direct relationship between higher risk and higher return. A company taking

higher risk could endanger its liquidity position. However, if a company has a higher return it will increase its profitability. Consequently, a firm is required to maintain a balance between liquidity and profitability in the conduct of its day-to-day operations. Investments in current assets are inevitable to ensure delivery of goods or services to the ultimate customers. A proper management of the same could result in the desired impact on either profitability or liquidity. This suggests that a relationship exists between liquidity and profitability in a business organization.

This study analyses the liquidity and profitability ratios of three quoted companies in Nigeria over a seven-year period. The companies are selected from the banking, manufacturing and processing industries respectively. The study is structure into five sections. Following this introduction is section two which is a review of related literature. Section three discusses the methodology employed in carrying out the study. Section four dwells on analysis and discussion of results while section concludes the study and proffers recommendations capable of enhancing policy and investment decisions.

Problem Statement

The relationship between liquidity and profitability has remained a source of disagreement among experts, researchers, professional financial analysts and even managements of profit-oriented businesses. Therefore, views on the actual relative importance of each in business enterprises have continued to differ.

Research Questions

In order to gain an insight and understand the relationship, if any, between liquidity and profitability in a profit-oriented business, the following questions below are addressed in the course of the study:

- Is there any relationship between liquidity and profitability?
- What is the nature and extent of the relationship between liquidity and profitability?
- Is there any functional relationship between liquidity and profitability, and in what direction?
- Does profitability means liquidity?

Objectives of the Study

The present study is envisaged with the following objectives:

- To understand the relationship between liquidity and profitability in a profit-driven business enterprise.
- To determine the nature and extent of the relationship between liquidity and profitability.
- To determine whether a functional relationship exists between liquidity and profitability and, thus establish whether or not both reinforce each other.
- To proffer appropriate management policy recommendations.

Research Hypotheses

The hypotheses below are operationalized as a basis for analysis and conclusion on the relationship between liquidity and profitability.

Hypothesis One

H₀: There is no relationship between liquidity and profitability in a business organization.

H₁: There is relationship between liquidity and profitability in a business organization.

Hypothesis Two

H₀: Liquidity and profitability do not affect each other in a business organization.

H₁: Liquidity and profitability affect each other in a business organization.

2. Literature Review

Survey of working capital management shows that earlier research efforts attempted to develop models for optimal liquidity and cash balances, given the organization's cash flows the focus was on using quantitative models that weighed the benefits and costs of holding cash (liquidity). In this category include Baumol's (1952) inventory Management model and Miller and Orr's (1966) model which recognized the dynamics of cash flows. These earlier models help financial managers understand the problem of cash management, but they rest on assumptions that do not hold in practice.

Similarly, Johnson and Aggarwal (1988) support a treasury approach to cash management, which concentrates on flows which entail that cash collection and payment must be broken into their constituent parts. They emphasize cash management and control as part of the treasury function. Management then should review the time needed for each link in the collection and payment cycles. Some policy outlines, similar to these, were proposed by Schneider (1988) who argued that cash management should include analytical review of the procedures followed in managing working capital. These include granting of credit, managing balances, and collecting or receivables.

Liquidity and profitability have been discussed and analyzed extensively in the literature. While the immediate survival of a business anchors on its liquidity, its long-term survival, growth and expansion depend on profitability. Thus liquidity ensures short-term survival, and profitability ensures long-term survival. Both are, therefore important for any company to survive.

In the literature, however, while some have argued that liquidity is more important than profitability, some see profitability to be more important than liquidity, and yet others argue that both are equally important. Walt (2009) opines that profitability is more important because profit can usually be turned into a liquid asset, and that liquidity is also important but does not mean that the company is profitable. Don (2009), while acknowledging the relative importance of both, submits that liquidity is more important because it has to do with the immediate survival of the company. Profitability tells whether the business is sustainable while liquidity tells if the business has enough cash to pay its obligations. He cited the examples of two computer companies, Gateway and Dell. According to him, Gateway survived years of losses because it was very liquid. Despite years of losses, it functioned because it had enough "liquid" to survive. Dell survived for many years because it was profitable (until recently) even though it had billions of dollars in debt. Therefore, he submits that both are important, and that neither measure alone can give a true picture of any company's ability to continue. He warns, however, that at some point, if a company does not gain profitability, it will fail.

Liquidity management is necessary for all businesses, small, medium or large. Because, it means collecting cash from customers in time to ensure no difficulty in paying short term debts. Therefore, when a business does not manage its liquidity well, it will have cash shortages and will result in difficulty in paying obligations. In this regard Ali Uyar (2009) opines that, in addition to profitability, liquidity management is vital for ongoing concern. Schilling (1996) suggests optimum liquidity

position, which is minimum level of liquidity necessary to support a given level of business activity. He says it is critical to deploy resources between working capital and capital investment, because the return on investment is usually less than the return on working capital investment. Therefore, deploying resources on working capital as much as to maintain optimum liquidity position is necessary. Then he sets up the relationship between conversion cycle and minimum liquidity required such that if the cycle lengthens, the minimum liquidity required increases, and vice versa.

Specifically, Liquidity needs prevent a bank from investing all its cash though profitability comes from either the bank lending it or investing it. Since a bank needs to be both liquid (legal regulations) and profitable (shareholders demands), there is inherent conflict between the two and the need to balance both (www.answers.yahoo.com/questions). In this regard, the liquidity (legal regulations) is not the same in the non-bank businesses.

Some empirical studies have attempted to examine the relationship between liquidity and profitability. One of such studies used current ratio and cash gap (cash conversion cycle) to examined the relationship on a sample of joint stock companies in Saudi Arabia (Eljelly, 2004). Employing correlation and regression analysis techniques, the study found significant negative relationship between the firm's profitability and liquidity levels as measured by current ratio, and that the relationship is more evident in firms with high current ratios and longer cash conversion cycles. The study also found that at industry level, however, the cash conversion cycle or cash gap is of more importance as a measure of liquidity than current ratio that affects profitability. The size variable is also found to have significant effect on profitability at industry level. Similarly in his study, Jose et al (1996) showed that day-to-day management of a firm's short term assets and liabilities plays an important role in the success of the firm. Firms with glowing long term prospects and healthy bottom lines do not remain solvent without good liquidity management.

A study by Moss and Stine (1993) on retail firms revealed that firm's size is a factor in the length of its cash conversion cycle, and that a significant positive relationship exists between the cycle and the current and quick ratios. Other studies that empirically examined the relationship between profitability and liquidity showed that there exists a significant and negative relation between profitability and cash conversion cycle (Jose et al., 1996; Eljelly, 2004). A study conducted over 22,000 public companies by Hutchison et al. (2007) indicated a direct correlation between shorter conversion cycle and higher profitability for 75% of industries.

In an attempt to measure the impact of liquidity on profitability, Lanberg and Valming (2009) conducted a study using a sample of companies listed on Shochholm Stock Exchange. Their focus was on impact of active liquidity strategies on company's profitability in and out of financial turbulence or economic downturn. Relevant data were financial ratios which generated from financial statements. Their findings suggested that the adaptation of liquidity strategies do not have a significant impact on return on assets (ROA). Only increased use of liquidity forecasting and short-term financing during financial crisis had a positive impact on ROA. They found also that the importance of key ratios monitoring companies' liquidity has not changed between the studied time points. Therefore, they concluded that the adjustment of liquidity practices is beneficial for the companies, even though benefits are not always directly measurable in profitability and, thus,

recommended that companies should focus on liquidity and working capital management in an economic downturn.

In a study to measure the effect of working capital management on the net operating profitability and liquidity, Raheman and Nasr (2007) selected a sample of 94 Pakistani firms listed on Karachi Stock Exchange for a period of 6 years, and found that there is a strong negative relationship between variables of working capital management and profitability of the firms. The study also shows a significant negative relationship between liquidity and profitability, and that a positive relationship exists between size of the firm and its profitability. Also, there is a significant negative relationship between debt used by the firm and its profitability. Variables used in their analysis included average collection period, inventory turnover in days, average payment period, cash conversion cycle, current ratio, debt ratio, size of the firm and financial assets to total assets ratio.

3. Methodology

This study employs investigative and empirical analysis approach to examine the nature and extent of the relationship between liquidity and profitability in the selected quoted companies, and to determine whether any cause and effect relationship exists between the variables. Liquidity measure considered was current assets-liabilities ratio while profitability measure was operating profit-turnover ratio. Corporate liquidity is examined from two distinct dimensions: static or dynamic views (Lancaster et al., 1999; Farris and Hutchison, 2002; and Moss and Stine, 1993). The static view is based on commonly used traditional ratios, such as current ratio and quick ratio, calculated from the balance sheet amounts. These ratios measure liquidity at a given point in time. Dynamic view measures ongoing liquidity from the firm's operations as a dynamic measure of the time it takes a firm to go from cash outflow to cash inflow which is measured by cash conversion cycle.

However, this study examines liquidity from a comparative static dimension because analysis is based on time series data extracted from annual reports and accounts of the companies for the relevant period. Correlation analysis technique is used to determine the nature and extent of the relationship, while regression analysis technique is used to determine whether cause-and-effect relationship exists between liquidity and profitability (See Appendix I for graphical illustrations of trend values of the ratios). Correlation coefficient is computed from liquidity and profitability ratios derived from six-year financial statements of the selected quoted companies. The coefficient gives an insight into the nature and extent of the relationship. The regression analysis is a two-way process in that liquidity is regressed on profitability, and vice versa. This is to determine whether the variables are interdependent, i.e., cause changes in, and is affected by, each other. Thus, disaggregated a two-way functional relationships are expressed, from which simple linear regression models are specified to capture the assumed dual functional relationship.

Correlation Coefficient (r)

This establishes the nature and extent of a relationship between retail business and satisfaction of society's product needs in the study area. The numerical value of the coefficient ranges from -1 to +1 inclusively ($-1 \leq r \leq 1$). Computation of the coefficient was facilitated via software application – Econometric Views.

Restatement of Research Hypotheses

The hypotheses below are operationalized as a basis for analysis and conclusion on the relationship between liquidity and profitability.

Hypothesis One

H₀: There is no relationship between liquidity and profitability in a business organization.

H₁: There is relationship between liquidity and profitability in a business organization.

Hypothesis Two

H₀: Liquidity and profitability do not affect each other in a business organization.

H₁: Liquidity and profitability affect each other in a business organization.

Hypothesis one is evaluated based on the correlation analysis while regression analysis the basis of evaluation of hypothesis two.

Model Specification

Based on assumed dual functional relationship between liquidity and profitability, simple regression models are specified for empirical investigation and analysis of the relationship. Theoretical version of the respective models is liquidity (LQTY) depends on profitability (PFTY), and profitability (PFTY) depends on liquidity (LQTY). Functionally,

$$\begin{aligned} \text{LQTY} &= f(\text{PFTY}) \dots\dots\dots \text{I} \\ \text{PFTY} &= f(\text{LQTY}) \dots\dots\dots \text{II} \end{aligned}$$

From these functional relationships, the simple regression models below are specified.

$$\begin{aligned} \text{LQTY} &= \beta_0 + \beta_1 \text{PFTY} + \mu \dots\dots\dots \text{I}^1 \\ \text{PFTY} &= \lambda_0 + \lambda_1 \text{LQTY} + \mu \dots\dots\dots \text{II}^1 \end{aligned}$$

where λ_0 and β_0 are intercepts of the regression lines

β_1 and λ_1 are slope coefficients to capture the nature and effect of the relationship between the variables.

μ is the stochastic term depicting influence of other factors that affect liquidity and profitability but which are not included in the model.

A priori, the intercepts and slope coefficients are expected to have positive sign, i.e., a positive level of liquidity is expected at zero profitability, and vice versa; and liquidity and profitability are expected to exert positive effect on each other.

Models Estimation, Evaluation and Test of Research Hypothesis

Numerical values of the intercepts and slope coefficients are estimated via ordinary least squares (OLS) techniques, and discussed vis-à-vis expectations. Estimation is facilitated with E-Views application (see Appendix II). To determine the relevant hypothesis to adopt, estimates are evaluated for statistical significance based on relevant statistics of regression output. Also, explanatory power of each model, as a measure of goodness of fit, is determined. Based on the evaluation, conclusion is drawn on the relationship between liquidity and profitability in the selected quoted companies.

Data for Empirical Analysis

Table A: Current Assets and Liabilities and Liquidity and Profitability Ratios of the Selected Companies (2003 – 2009)

YEAR:	2009	2008	2007	2006	2005	2004	2003
A. BANKING COMPANY							
Current Assets (₦' m)	1,347,382	1,463,926	1,054,135	818,965	242,774	202,425	195,406
Current Liabs (₦' m)	1,177,342	1,481,634	1,067,566	807,522	226,982	151,929	185,305
Liquidity Ratio*	1.1444	0.9880	0.9874	1.0142	1.0696	1.3324	1.0545
Operating Profit (₦' m)	12,889	40,002	19,831	11,468	4,653	4,185	2,989
Revenue (₦' m)	220,467	154,330	101,106	86,079	25,506	23,928	23,720
Profitability Ratio*	0.0585	0.2592	0.1961	0.1332	0.1824	0.1749	0.1260
B. PROCESSING COMPANY							
Current Assets (₦'000)	NA	7,775,649	7,366,306	12,700,363	22,388,890	13,406,787	10,763,559
Current Liabs (₦'000)	NA	22,202.130	20,466.428	22,456.888	12,882.567	9,017.215	5,405.186
Liquidity Ratio*	-	0.3502	0.3599	0.5655	1.7379	1.4868	1.9913
Operating Profit (₦'000)	NA	(2,952,772)	(464,231)	(4,543,104)	2,196,179	2,479,890	2,406,009
Revenue (₦'000)	NA	21,729,161	18,017.952	16,297.981	27,444.419	20,083.559	18,550.884
Profitability Ratio*	-	(0.1359)	(0.0256)	(0.2788)	0.0800	0.1235	0.1297
C. MANUFACTURING COMPANY							
Current Assets (₦'000)	17,422,052	18,587,114	15,748,127	16,396,206	15,115,270	12,212,340	14,321,143
Current Liabs (₦'000)	10,674,274	18,099,375	17,179,658	16,328,186	18,395,490	20,376,635	27,593,117
Liquidity Ratio*	1.6322	1.0269	0.9167	1.0042	0.8217	0.5993	0.5190
Operating Profit (₦'000)	8,276,596	12,125,133	11,575,204	12,983,250	6,545,068	2,963,472	(957,568)
Revenue (₦'000)	45,589,798	43,273,809	38,664,795	39,517,587	26,463,835	21,915,978	12,674,039
Profitability Ratio*	0.1815	0.2802	0.2994	0.3285	0.2473	0.1352	(0.0756)

Source: Annual Reports and Accounts of the Selected Quoted Companies (various years).

*Own Computation.

Table A: Liquidity and Profitability Ratios of the Selected Companies (2003 – 2009)

YEAR:	2009	2008	2007	2006	2005	2004	2003
A. BANKING COMPANY							
Liquidity Ratio	1.1444	0.9880	0.9874	1.0142	1.0696	1.3324	1.0545
Profitability Ratio	0.0585	0.2592	0.1961	0.1332	0.1824	0.1749	0.1260
B. PROCESSING COMPANY							
Liquidity Ratio	-	0.3502	0.3599	0.5655	1.7379	1.4868	1.9913
Profitability Ratio	-	(0.1359)	(0.0256)	(0.2788)	0.0800	0.1235	0.1297
C. MANUFACTURING COMPANY							
Liquidity Ratio	1.6322	1.0269	0.9167	1.0042	0.8217	0.5993	0.5190
Profitability Ratio	0.1815	0.2802	0.2994	0.3285	0.2473	0.1352	(0.0756)

Source: Own Computation.

4. Results and Discussion

A. BANKING SECTOR/INDUSTRY

The estimated models and relevant statistics are:

$$LQTY = 1.170993 - 0.536540PFTY + e \dots\dots\dots I^{11}$$

SE: (0.142710) (0.830812)
 T-statistic: 8.205377* -0.645802
 Prob.(t-Statistic): (0.0004) (0.5469)
 R-Square (R²) = 0.076990 Adjusted R-Square (R²) = -0.107612
 Correlation Coefficient (r) = -0.277470719**

*Significant at 5%,

** Own Computation

Source: Regression Output

$$PFTY = 0.317070 - 0.143494LQTY + e \dots\dots\dots II^{11}$$

SE: (0.242250) (0.222195)
 T-statistic: 1.308855 -0.645802
 Prob.(t-Statistic): (0.2475) (0.5469)
 R-Square (R²) = 0.076990 Adjusted R-Square (R²) = -0.107612
 Correlation Coefficient (r) = -0.277470719**

** Own Computation

Source: Regression Output

B. PROCESSING COMPANY

$$LQTY = 1.146465 + 3.615239PFTY + e \dots\dots\dots I^{11}$$

SE: (0.205672) (1.369485)
 T-statistic: 5.574237* 2.639852*
 Prob.(t-Statistic): (0.0051) (0.0576)
 R-Square (R²) = 0.635330 Adjusted R-Square (R²) = 0.544162
 Correlation Coefficient (r) = 0.797075906**

*Significant at 5%,

**Own Computation

Source: Regression Output

PFTY = -0.207985 + 0.175737LQTY + e Π^{11}
 SE: (0.084940) (0.066571)
 T-statistic: -2.448615 2.639852*
 Prob.(t-Statistic): (0.0706) (0.0576)
 R-Square (R^2) = 0.635330 Adjusted R-Square (R^2) = -0.544162
 Correlation Coefficient (r) = 0.797075906**

*Significant at 5%,

**Own Computation

Source: Regression Output

C. MANUFACTURING COMPANY

LQTY = 0.702545 + 1.147286PFTY + e I^{11}
 SE: (0.250921) (1.057428)
 T-statistic: 2.799864* 1.084978
 Prob.(t-Statistic): (0.0380) (0.3275)
 R-Square (R^2) = 0.190569 Adjusted R-Square (R^2) = 0.028682
 Correlation Coefficient (r) = 0.436542094**

*Significant at 5%,

**Own Computation

Source: Regression Output

PFTY = 0.044786 + 0.166104LQTY + e Π^{11}
 SE: (0.151678) (0.153094)
 T-statistic: 0.295271 1.084978
 Prob.(t-Statistic): (0.7797) (0.3275)
 R-Square (R^2) = 0.190569 Adjusted R-Square (R^2) = 0.028682
 Correlation Coefficient (r) = 0.436542094**

**Own Computation

Source: Regression Output

Discussion of Results

These results show that while a negative relationship exists between liquidity and profitability in the banking company, while a positive relationship exists between the two variables in processing and manufacturing companies respectively. This suggests that, perhaps, while liquidity and profitability are positively correlated in a manufacturing and processing organization, they are negatively correlated in a banking organization. That is, while there is a trade-off between liquidity and profitability in the banking business, the two reinforce each other in the manufacturing and processing businesses. For the banking sector, more liquidity implies less profitability, and vice versa. But for

the firm in manufacturing or processing industry, more liquidity translates to more profitability, and vice versa. This is so because a bank maintains liquidity as regulatory requirement.

In all the companies, positive level of liquidity is obtainable even at zero profitability level. Positive level of profitability at zero liquidity is obtainable in banking and manufacturing outfits respectively, but not processing outfit. This probably suggests that a firm in the processing industry necessarily need liquidity, especially its raw material inputs, to remain in operation at any point in time. In the absence of such liquid assets, there is loss or negative profit resulting from overhead costs.

In banking, liquidity and profitability exert negative but statistically insignificant effect on each other as evidenced by the t-statistic value of -0.645802. Also, liquidity and profitability exhibited very weak explanatory power (about 7.7%) in explaining changes in each other as indicated by the low coefficient of determination or R-squared value of 0.076990. These imply that liquidity does not significantly explain profitability, and vice versa.

In processing, liquidity and profitability exert significant positive effect on each other as indicated by the t-statistic value of 2.639852. Also, liquidity and profitability showed strong explanatory power (about 63.5%) in explaining changes in each other as indicated by the high coefficient of determination or R-squared value of 0.635330.

In manufacturing, liquidity and profitability exert positive but insignificant effect on each other as shown by the t-statistic value of 1.084978. Also, liquidity and profitability showed weak explanatory power (about 19.1) in explaining changes in each other as evidenced by the low coefficient of determination or R-squared value of 0.190569.

Conclusion and Recommendations

This analysis has shown differing degree of relative relevance of liquidity and profitability in the three selected quoted companies. From the analysis, the following conclusions can be drawn:

- For a bank, there is a trade-off between liquidity and profitability in that the more of one implies less of the other.
- A positive relationship exists between liquidity and profitability in a company in the manufacturing or processing industry.
- While there is a trade-off between liquidity and profitability in the banking business, the two reinforce each other in the manufacturing and processing businesses.
- For a bank, more liquidity implies less profitability, and vice versa. But for the firm in manufacturing or processing industry, more liquidity translates to more profitability, and vice versa. This could be for the fact that a bank maintains liquidity as regulatory requirement.
- For a company in the banking, manufacturing or processing industry, a positive level of liquidity is obtainable even at zero profitability level.
- Positive level of profitability at zero liquidity is obtainable in a banking or manufacturing firm but not in a processing firm.
- A firm in the processing industry necessarily needs liquidity, especially its raw material inputs, to remain in operation at any point in time.
- In the bank, liquidity and profitability exert negative but statistically insignificant effect on each other, and each exhibits weak explanatory power in explaining changes in the other.

- In the processing firm, liquidity and profitability exert significant positive effect on each other, and also show strong explanatory power explaining changes in each other.
- In the manufacturing firm, liquidity and profitability exert positive but insignificant effect on each other, and show weak explanatory power in explaining changes in each other.

Consequently, the study proffers the following for policy and investment decisions:

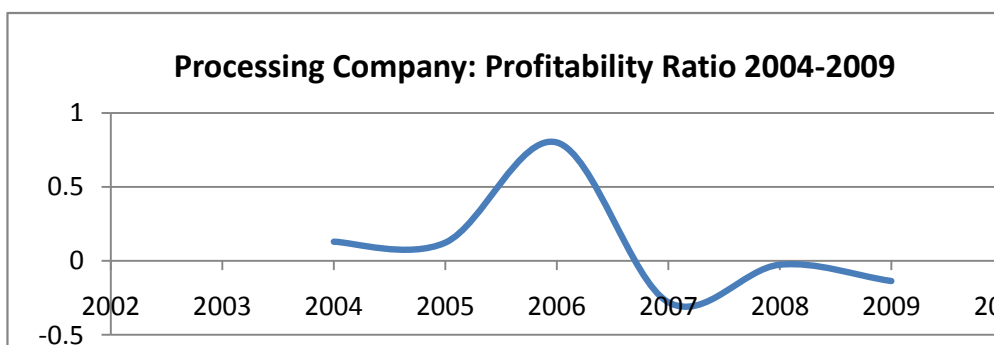
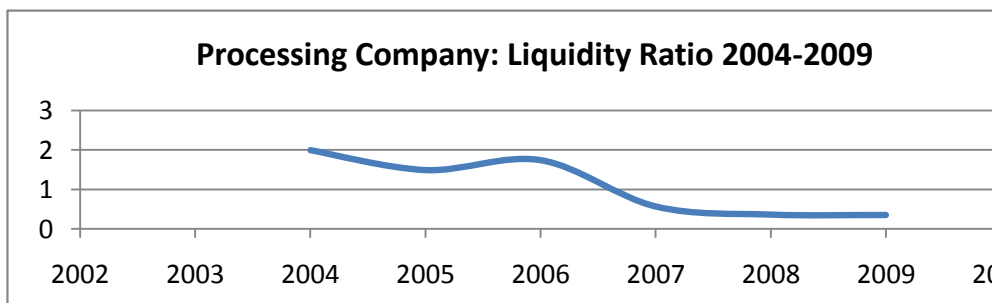
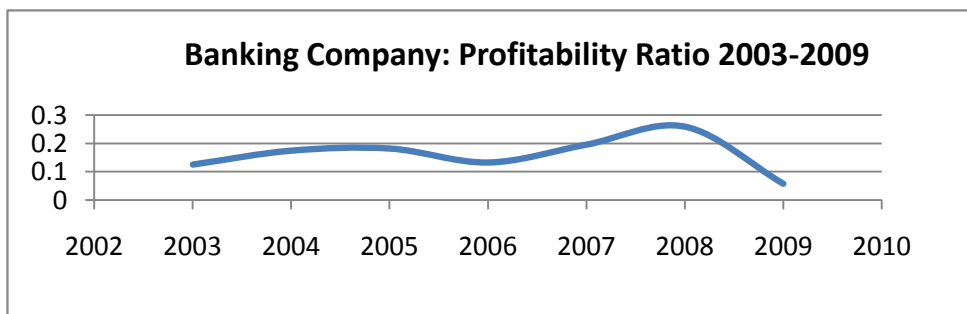
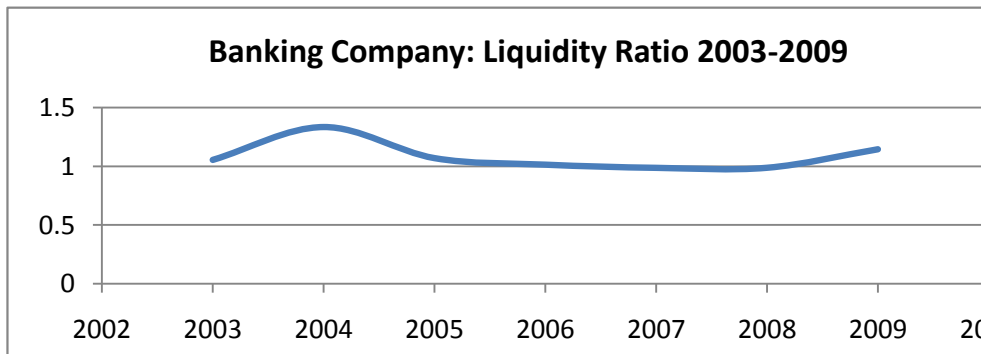
- The banks should strike a balance between liquidity and profitability so as to meet regulatory requirement as well as shareholders' wealth aspirations.
- Manufacturing firms should pursue profit maximization since so doing simultaneously enhances liquidity.
- Processing firms should always ensure adequate liquidity, especially raw material inputs, since it is necessary to remain in operation.
- Manufacturing and processing firms may pursue either liquidity or profitability since both reinforce each other. But caution should be exercised in the case of processing firms.
- Investors should be guided by the true liquidity and profitability positions of a firm in any of these industries in their investment decisions.

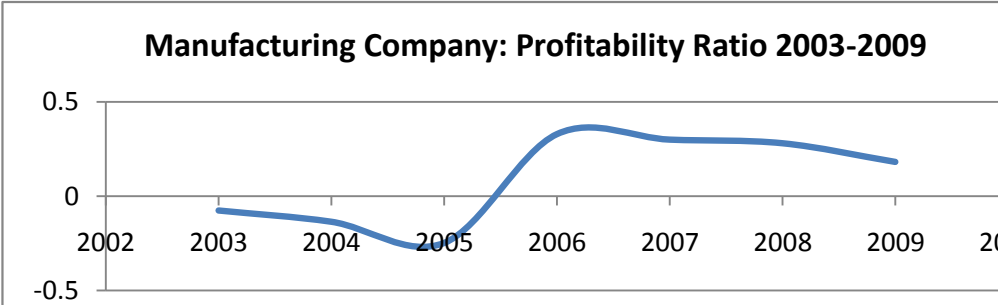
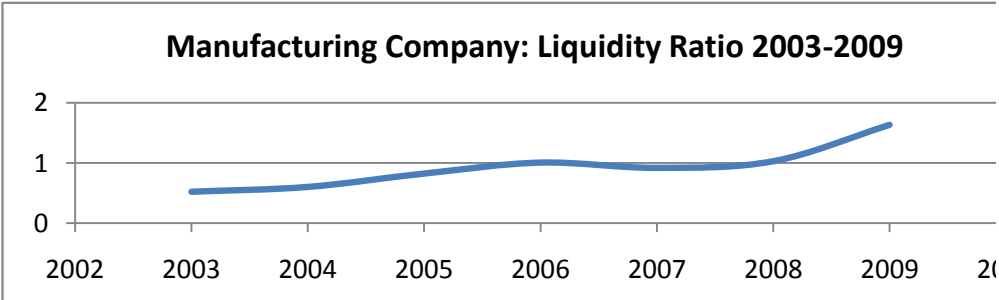
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APPENDIX I
Trends in the Liquidity & Profitability Ratios (2003 – 2009)





APPENDIX II
 REGRESSION ANALYSIS RESULTS

A. BANKING COMPANY

Dependent Variable: LQTY

Method: Least Squares

Date: 07/26/10 Time: 18:20

Sample: 2003 2009

Included observations: 7

Variable	Coefficien t	Std. Error	t-Statistic	Prob.
C	1.170993	0.142710	8.205377	0.0004
PFTY	-0.536540	0.830812	-0.645802	0.5469
R-squared	0.076990	Mean dependent var	1.084357	
Adjusted R-squared	-0.107612	S.D. dependent var	0.122370	
S.E. of regression	0.128786	Akaike info criterion	-	1.026367
Sum squared resid	0.082930	Schwarz criterion	-	1.041821
Log likelihood	5.592283	F-statistic	0.417061	
Durbin-Watson stat	2.047081	Prob(F-statistic)	0.546872	

Source: Regression Analysis Result

Dependent Variable: PFTY

Method: Least Squares

Date: 07/26/10 Time: 18:27

Sample: 2003 2009

Included observations: 7

Variable	Coefficien t	Std. Error	t-Statistic	Prob.
C	0.317070	0.242250	1.308855	0.2475
LR	-0.143494	0.222195	-0.645802	0.5469
R-squared	0.076990	Mean dependent var	0.161471	
Adjusted R-squared	-0.107612	S.D. dependent var	0.063284	
S.E. of regression	0.066602	Akaike info criterion	-	2.345216
Sum squared resid	0.022179	Schwarz criterion	-	2.360670

Log likelihood	10.20825	F-statistic	0.417061
Durbin-Watson stat	2.313712	Prob(F-statistic)	0.546872

Source: Regression Analysis Result

B. PROCESSING COMPANY

Dependent Variable: LR

Method: Least Squares

Date: 07/26/10 Time: 18:30

Sample(adjusted): 2004 2009

Included observations: 6 after adjusting endpoints

Variable	Coefficien	Std. Error	t-Statistic	Prob.
C	1.146465	0.205672	5.574237	0.0051
PR	3.615239	1.369485	2.639852	0.0576
R-squared	0.635330	Mean dependent var	1.081933	
Adjusted R-squared	0.544162	S.D. dependent var	0.740895	
S.E. of regression	0.500221	Akaike info criterion	1.713667	
Sum squared resid	1.000883	Schwarz criterion	1.644253	
Log likelihood	-3.141000	F-statistic	6.968820	
Durbin-Watson stat	1.821082	Prob(F-statistic)	0.057589	

Source: Regression Analysis Result

Dependent Variable: PR

Method: Least Squares

Date: 07/26/10 Time: 18:31

Sample(adjusted): 2004 2009

Included observations: 6 after adjusting endpoints

Variable	Coefficien	Std. Error	t-Statistic	Prob.
C	-0.207985	0.084940	-2.448615	0.0706
LR	0.175737	0.066571	2.639852	0.0576
R-squared	0.635330	Mean dependent var	-	0.017850

Adjusted R-squared	0.544162	S.D. dependent var	0.163350
S.E. of regression	0.110287	Akaike info criterion	-
Sum squared resid	0.048653	Schwarz criterion	-
Log likelihood	5.930779	F-statistic	6.968820
Durbin-Watson stat	2.740254	Prob(F-statistic)	0.057589

Source: Regression Analysis Result

C. MANUFACTURING COMPANY

Dependent Variable: LR

Method: Least Squares

Date: 07/26/10 Time: 18:34

Sample: 2003 2009

Included observations: 7

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.702545	0.250921	2.799864	0.0380
PR	1.147286	1.057428	1.084978	0.3275
R-squared	0.190569	Mean dependent var	0.931429	
Adjusted R-squared	0.028682	S.D. dependent var	0.364727	
S.E. of regression	0.359458	Akaike info criterion	1.026520	
Sum squared resid	0.646052	Schwarz criterion	1.011065	
Log likelihood	-1.592819	F-statistic	1.177177	
Durbin-Watson stat	0.897117	Prob(F-statistic)	0.327451	

Source: Regression Analysis Result

Dependent Variable: PR
 Method: Least Squares
 Date: 07/26/10 Time: 18:35
 Sample: 2003 2009
 Included observations: 7

Variable	Coefficien t	Std. Error	t-Statistic	Prob.
C	0.044786	0.151678	0.295271	0.7797
LR	0.166104	0.153094	1.084978	0.3275
R-squared	0.190569	Mean dependent var		0.199500
Adjusted R-squared	0.028682	S.D. dependent var		0.138779
S.E. of regression	0.136774	Akaike info criterion		- 0.906021
Sum squared resid	0.093535	Schwarz criterion		- 0.921475
Log likelihood	5.171072	F-statistic		1.177177
Durbin-Watson stat	0.946656	Prob(F-statistic)		0.327451

Source: Regression Analysis Result