



The impact of liquidity on firm profitability: Case of Tunisia

Mohamed Aymen Ben Moussa and Hedi trabelsi

Ph D Finance ; faculty of economic sciences and management of Tunis ; University el Manar

Professor in Quantitative methods ; faculty of economic sciences and management of Tunis , Univerity of Manar

Abstract: Liquidity and profitability are important in the finance of firm . The objective of firm is to increase his profitability . but the level of liquidity is important to meet their obligations and make new investments . In this article we studied the impact of liquidity of profitability of firm in Tunisia context . We used a sample of 30 firms quoted for the period (2016-2021) . By applying a dynamic panel ; we found that liquidity has a significant impact on firm profitability .

Key words: Liquidity, Profitabilit, Firm, Dynamic Panel

1-Introduction

Liquidity is a measure of a company's ability to pay off its short-term liabilities—those that will come due in less than a year. It's usually shown as a ratio or a percentage of what the company owes against what it owns. These measures can give you a glimpse into the financial health of the business. Profitability is the primary goal of all business ventures. Without profitability the business will not survive in the long run. So measuring current and past profitability and projecting future profitability is very important.

On the other hand ; profitability is measured with income and expenses. Income is money generated from the activities of the business. For example, if crops and livestock are produced and sold, income is generated. However, money coming into the business from activities like borrowing money do not create income. This is simply a cash transaction between the business and the lender to generate cash for operating the business or buying assets.

A firm is required to maintain a balance between liquidity and profitability for the sake of its short term obligations. Liquidity is a prerequisite to ensure that firms are able to pay its short term debt and its continued flow can be guaranteed from a profitable business enterprise. Liquidity for the ongoing firm is not dependent on the liquidation value of its assets, but also depends on the operating cash flows generated by those assets of firms (Soenen, 1993).

There is always tradeoff between liquidity and profitability (Eljelly, 2004). Liquidity and profitability are important goals for any firm and to sacrifice one goal at the cost of other can create severe problems for the firm (Kargar and Bluementhal, 1994). Profitability is important for long term survival of firms which helps to maximize the wealth of shareholder.

There is an inverse relationship between profitability and liquidity. The higher the liquidity the lower will be the profitability and vice versa. Liquidity and profitability are competing goals for the Finance Manager. Under liquidity management, the Finance Manager is expected to manage all its current assets including near cash assets in such a way as to ensure to minimize costs.

In this article , we used a methodology composed of three sections . The first section is devoted to literature review . we make an empirical study in second section . After We make a conclusion

2-Literature review

A-Liquidity :

It is a prerequisite for a firm as it shows its ability for meeting its short term obligations . Current ratio sets the association between short term assets and short term liabilities . When assets are liquid it means that they can be converted into cash quickly without loss . (Yameen and al (2019))

Efficient liquidity management involves planning and controlling current assets and current liabilities to eliminate the risk of insolvency by not meeting the short term obligations on time .



Besides ; liquidity is one of the most important control variables that accounts for firm profitability as well (Latridis ; Kadorimis (2009)).

Jekinson (2008) stated that liquidity is an important financial indicators that means whether the company has the ability to meet is short term liabilities or not without incurring considerable losses.

According to Bhnia (2010) liquidity plays a significant role in the successful functioning of a business firm . A firm should ensure that it does not suffer from lack of liquidity to meet its short term demands. Also keeping excess liquidity is not beneficial to the company because idle funds does not guarantee any income ore returns to the company .

Mueller (2018) viewed liquidity as the availability of cash and cash equivalents to meet short term operational needs of firms

Kimberly (2018) also viewed liquidity as the amount of money that is realisy available for investment and spending ; and consists of cash ; treasury bills ; nots and bonds ; and my other assets that can be sold quickly .

B-Profitability

A company's profitability is the extent to which its total income exceeds its total expenses for any given period. Profitability is an accounting concept that is sometimes referred to as net profit or net income. Profitability is the ability of company management to distribute and manage resources efficiently (Zulkipli (2009)).

Profitability information is crucial for decision making and it is used by many people in the company such as managers ; investors ; and financial analysts as guide for dividend payment ; management efficiency tool measurement and instrument for decision making evaluation (Nassirzadeck) ; Rostnami (2010)).

Managers should strive to achieve a reasonable level of profitability in order to manager their shareholders wealth .

C-The relationship between liquidity and profitability of firm

It is therefore essential for firms to maintain a tradeoff between liquidity and their profitability (Mueller (2018) ; Ben Caleb –Oukrola ; Vwigbe (2019) ; Ashok ; Nainta ; Chartralli (2018) ; Peavler (2017) ; Ally (2017)).

As postulated by Peavler (2017) ; Mueller (2018) ; Ally (2017) ; creditors and investors usually prefer higher levels of liquidity ; but extremely higher level of liquidity

could imply a firm is not properly interesting its resources to generate returns .

The liquidity profitability tradeoff theory assumes that effective supervision of firm is vital to the preservation of security and the safety of their operational systems ; to an extent that ; they will be in a position to defray their financial obligations and struggles.

A firm should ensure that it does not suffer from lack of liquidity to meet its short term demands . Also keeping excess liquidity is not beneficial to the company because idle funds does not generate any income or return to the company .

Sometimes, even if the profit from operations is higher, the firm may face liquidity problems due to the fact that the amount representing the profit may be in the form of either in fixed assets like plant, buildings etc. or in the form of current assets like inventory, debtors – other than in the form of cash and bank balances. In situations where the firm faces the liquidity problems, will hamper the working of the company which result in lower profitability of the firm.

Lack of liquidity may lead to lower rate of return, loss of business opportunities etc. Therefore, a firm should maintain a trade-off situation where the firm maintains its optimum liquidity for greater profitability and the Finance Manager has to strike a balance between these two conflicting objectives. If more assets of the firm are held in the form of highly liquid assets, it will reduce the profitability of the firm. The corporate liquidity is a vital factor in business.

Yameen and al (2019) investigated the impact of liquidity on profitability of pharmacteucially companies listed on Bombay stock exchange for the period (2008...2017) . They found that current liquidity ratio and quick ratio have a positive and significant impact on the profitability of pharmaceutical companies measured by ROA .

Eljelly (2004) ; Nassirzadeck ; Rostnami (2010) ; Sandhar and Janhain (2014) performed their studies in Saudi Arabia ; Iran and India respectively using correlation and regression analysis to evaluate liquidity profitability tradeoff ; taking sample size of 29 ; 108 and 30 companies respectively .The evaluation concluded that liquidity measured by traditional and modern indices has a negative association with profitability.

Also **Thurusingam (2015)** studied the liquidity and its impact on profit earning capacity of the Srilankan listed



companies for the period (2008....2012) . He found that there is no significant relationship between liquidity and profitability .

Mustafa and al (2019) studied a sample of 12 automobile firms listed in Pakistan stock exchange for 5 years . They found that quick ratio was positively affect return on assets (ROA) . However there is a negative relationship between current ratio , cash ratio with ROA .

Dadebo and Afolabi (2020) studied the sample of 10 manufacturing firms in Nigeria for the period of 5 years (2012...2016). The study revealed that current ratio has negative and significant impact on ROA.

We used a sample of 30 firms quoted in Tunisian stock exchange for the period (2016-2021)

	Name of company
1	Air liquid
2	SIAME
3	Ciment Bizerte
4	Carthage ciment
5	SOTIPAPIER
6	Essoukna
7	SOMOCER
8	Magasin General
9	STIP
10	SOTETEL
11	SOTEMAIL
12	SITEX
13	SFBT
14	Tawassol
15	Ennakl
16	Adwya
17	SOTUMAG
18	STAG
19	SAH
20	Assad
21	Office plast
22	STEG international services
23	CELLCOM
24	SOPAT
25	SANIMED
26	SOTUVER
27	SIMPAR
28	Poulina
29	Delice
30	SFBT

Ali and al (2018) found that current ratio has a significantly positive influence on the firm's financial performance in Jordan

Sudiatno and Suwanti (2022) studied 123 firms in Indonesia for the period (2019-2021) . They found that liquidity has negative impact on firm profitability.

Bibi and Amjad (2017) studied a sample of 50 firms listed in Karachi stock exchange in Pakistan . They found that current ratio has a positive and significant effect on firm profitability .

3-Empirical study

A-Sample



B-Econometric method

We used a panel dynamic :

The dynamic panel data regression model described is characterized by two sources of persistence over time: the presence of a lagged dependent variable as a regressor and cross section-specific unobserved heterogeneity. The lag dependent variable as a regressor creates autocorrelation.

dynamic panel data models include lagged levels of the dependent variable as regressors. Including a lagged dependent variable as a regressor violates strict exogeneity, because the lagged dependent variable is likely to be correlated with the [random effects](#) and/or the general errors.

When the exogeneity assumptions are violated and correlation pattern between time varying variables and errors may be complicated, commonly used static panel data techniques such as [fixed effects](#) estimators are likely to produce inconsistent estimators because they require certain [strict exogeneity](#) assumptions.

[Anderson](#) and [Hsiao](#) (1981) first proposed a solution by utilising [instrumental variables](#) (IV) estimation.^[3] However, the Anderson–Hsiao estimator is asymptotically inefficient, as its asymptotic variance is higher than the Arellano–Bond estimator, which uses a similar set of instruments, but uses [generalized method of moments](#) estimation rather than [instrumental variables](#) estimation.

In the Arellano–Bond method, [first difference](#) of the [regression equation](#) are taken to eliminate the individual effects. Then, deeper lags of the dependent variable are used as instruments for differenced lags of the dependent variable (which are endogenous).

In traditional panel data techniques, adding deeper lags of the dependent variable reduces the number of observations available. For example, if observations are available at T time periods, then after first differencing, only T-1 lags are usable. Then, if K lags of the dependent variable are used as instruments, only T-K-1 observations are usable in the regression. This creates a trade-off: adding more lags provides more instruments,

D- Variables spécification

Variable	Measure
ROA	Net profit / total assets
ROE	Net profit / total equity
Size	Logarithm of total assets
CAP	Equity / total assets

but reduces the sample size. The Arellano–Bond method circumvents this problem.

In [econometrics](#), the **Arellano–Bond estimator** is a [generalized method of moments](#) estimator used to estimate [dynamic models](#) of [panel data](#). It was proposed in 1991 by [Manuel Arellano](#) and [Stephen Bond](#),^[1] based on the earlier work by [Alok Bhargava](#) and [John Denis Sargan](#) in 1983, for addressing certain endogeneity problems.^[2] The GMM-SYS estimator is a system that contains both the levels and the first difference equations. It provides an alternative to the standard first difference GMM estimator.

he **Sargan–Hansen test** or **Sargan's test** is a [statistical test](#) used for testing [over-identifying restrictions](#) in a [statistical model](#). It was proposed by [John Denis Sargan](#) in 1958, and several variants were derived by him in 1975.¹ [Lars Peter Hansen](#) re-worked through the derivations and showed that it can be extended to general non-linear [GMM](#) in a [time series](#) context.

The Sargan test is based on the assumption that model parameters are identified via a priori restrictions on the coefficients, and tests the validity of over-identifying restrictions. The test statistic can be computed from [residuals](#) from [instrumental variables](#) regression by constructing a quadratic form based on the cross-product of the residuals and exogenous variables. Under the null hypothesis that the over-identifying restrictions are valid, the statistic is asymptotically distributed as a [chi-square](#) variable with degrees of freedom (where is the number of instruments and is the number of endogenous variable

C-Models

Model 1

$ROA_{i,t} = a_0 + b_1 ROA_{i,t-1} + b_2 Size_{i,t} + b_3 CAP_{i,t} + b_4 CRI_{i,t} + b_5 Levi_{i,t} + b_6 ALAI_{i,t} + b_7 FAI_{i,t} + b_8 CEAI_{i,t} + b_9 PEI_{i,t} + b_{10} TPIBI_{i,t} + b_{11} TINFI_{i,t} + E_{i,t}$

Model 2

$ROE_{i,t} = a_0 + b_2 ROE_{i,t} + b_3 Size_{i,t} + b_3 CAP_{i,t} + b_4 CRI_{i,t} + b_5 Levi_{i,t} + b_6 ALAI_{i,t} + b_7 FAI_{i,t} + b_8 CEAI_{i,t} + b_9 PEI_{i,t} + b_{10} TPIBI_{i,t} + b_{11} TINFI_{i,t} + E_{i,t}$



ALA	Liquidity / Total assets
FA	Non currents liabilities /Equity
Lev	Total labilités / Total assets
CR	Current assets / current liabilities
CEA	Operating costs / Total assets
PE	Operating revenues /Total assets
TPIB	Economic growth
TINF	Rate of inflation

We proposed to verify these hypotheses :

H1: The liquidity has a significant impact on firm profitability

H2: the relationship between liquidity and profitability of firm is not significant

E-Table1: Summary of descriptive statistics

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
ROA	180	0.042	0.16	-0.64	0.9694
ROE	180	0.071	0.54	-3.004	3.42
ALA	180	0.124	0.521	0.0003	0.678
Size	180	18.44	1.81	11.29	22.024
CAP	180	0.40	0.583	-3.013	3.62
CR	180	2.28	3.52	0.052	32.017
Lev	180	0.85	1.027	0.0021	9.34
FA	180	0.76	2.61	-11.75	14.8
CEA	180	0.37	0.28	0.0019	1.47
PE	180	0.35	0.28	0.00055	0.95
TPIB	180	0.003	0.041	-0.087	0.033
TINF	180	0.0571	0.011	0.036	0.0731

-ROA (mean = 0.042) . In average net result represent 4.2% of total assets . The standard deviation is high . There is a big difference between firms in term of ROA

-ROE (mean = 0.071) . In average net result represent 7.1% of equity . The standard deviation is high . There is a big difference between firms in term of ROE

ALA (mean = 0.124) . In average liquid assets represent 12.4% of total assets . Standard deviation is high. There is a big difference between firms in term of ALA

Size (mean = 18.44) . There is a big firms and small firms in this sample .

Table 2: correlation between variables

	ROA	ROE	ALA	Size	CAP
ROA	1.000				
ROE	0.2520	1.000			

Cap(mean = 0.40) . In average the CAP represent 40% of total assets . There is a big difference between firms in term of CAP

CR (mean = 2.28) . In average current assets represent 2.28 of current liabilities. The standard deviation is low

Lev (mean = 0.85) . In average total liabilities represent 85% of total assets . Standard deviation is high . There is big difference between firms in term of lev.

F-Multicollinearity test



ALA	0.0350	0.0088	1.000		
Size	0.0251	0.0050	-0.1108	1.000	
CAP	0.1436	0.1092	0.3444	-0.0867	1.000
CR	0.0348	0.0194	-0.0407	0.0985	0.1611
Lev	-0.0121	-0.0542	-0.0314	-0.0048	-0.2251
FA	-0.0291	0.11	-0.0187	0.1537	-0.0672
CEA	0.0344	0.015	0.1081	-0.0118	-0.0598
PE	-0.0062	0.0332	0.1371	0.0612	-0.0246
TPIB	0.0357	0.0699	-0.0150	-0.0149	-0.0783
TINF	0.0116	0.0021	-0.0232	0.0329	-0.099

Table 3: suite of correlation between variable

	CR	Lev	FA	CEA	PE	TPIB	TINF
CR	1.000						
Lev	-0.1725	1.000					
FA	-0.0573	-0.0225	1.000				
CEA	-0.0461	0.0343	-0.0052	1.000			
PE	-0.0872	0.2918	0.0031	0.5745	1.000		
TPIB	-0.0394	0.0797	0.0744	0.0114	-0.0844	1.000	
TINF	0.0665	-0.0152	-0.0583	-0.0510	-0.0426	0.1048	1.000

The all coefficients are inferior to 80% there is no problem of multicollinearity .

Test of VIF

Table

Variable	VIF	1/ VIF
PE	1.76	0.56
CEA	1.58	0.63
CAP	1.27	0.78
Lev	1.23	0.80
ALA	1.19	0.92
CR	1.08	0.93
Size	1.07	0.95
TPIB	1.05	0.93
TINF	1.5	0.96
FA	1.4	

A variance inflation factor (VIF) is a measure of the amount of multicollinearity in regression analysis. [Multicollinearity](#) exists when there is a correlation between multiple independent variables in a multiple regression model. This can adversely affect

the [regression](#) results. Thus, the variance inflation factor can estimate how much the variance of a regression coefficient is inflated due to multicollinearity.

In general terms,

- VIF equal to 1 = variables are not correlated



- VIF between 1 and 5 = variables are moderately correlated
- VIF greater than 5 = variables are highly correlated

The higher the VIF, the higher the possibility that multi-collinearity exists, and further research is required. When VIF is higher than 10, there is significant multi-collinearity that needs to be corrected

G- Estimations of models

1-Estimation of model 1

ROA	Coefficient	Z	Z< P
ROAt-1	0.18	5.21(***)	0.000
Size	-0.096	-8.59(***)	0.000
CAP	0.026	3.35(***)	0.001
CR	-0.0025	-2.47	0.1040
Lev	0.0109	1.66	0.097
FA	-0.0043	-3.23(***)	0.001
CEA	-0.0075	-2.70(***)	0.007
PE	-0.018	-0.89	0.372
TPIB	0.198	2.12(**)	0.034
TINF	0.144	0.35	0.729
Constant	0.182	7.59(***)	0.000
ALA	-0.031	-1.98	0.051

Arellano bond test for zero autocorrelation

Order	Z	Z<P
1	-1.694	0.09
2	0.97	0.3306

Test Sargan for over identifying restrictions

Ho: over identifying restriction are valid

Chi 2 (13)= 11.42

2-Estimation of model 2

ROE	Coefficient	Z	p<Z
ROEi,t-1	0.2588	21.52 (***)	0.000
Size	-0.072	-5.15(***)	0.000
CAP	0.143	5.32(***)	0.000
CR	0.010	2.49	0.107
Lev	0.024	5.87(***)	0.000
ALA	-0.0582	-1.95	0.051
FA	0.027	5.25(***)	0.000
CEA	-0.036	-4.47(***)	0.000
PE	-0.227	-0.51	0.608
TPIB	4.28	3.63 (***)	0.000
TINF	1.14	4.13(***)	0.000
Constant	0.173	8.45	0.000

Arellano bond test for zero auto correlation

Order	Z	Prob >Z
1	-1.96	0.049
2	1.29	0.1965



Test Sargan

Chi 2 (13) = 12.93

Prob > Chi 2= 0.4528

H- Interpretations of model (1)

-There is a positive relationship between ROA and ROA_{i,t-1} (if ROA_{i,t-1} increase by 1% ROA increase by 0.18%) . The increase of lagged variable of return on asset has a positive impact on return on assets .The result is similar to found by (Isik and Tasqui (2017)), Cheong and Hoang (2021)

-There is a negative relationship between ROA and size (if Size increase by 1% ROA will decrease by 0.096%) . The increase of size has a negative impact on return on assets of firm . This relationship is statistically significant at 1%. This result is similar to (Kant (2017); Dahmash and al (2021), Taileb (2014), Trihoran and Enti (2021)), Susolo and Diyunsati (2020) but contrary to result found by (Cheong and Hoang (2021), Matar and al (2018)).

Large firms benefit from economies of scales and economic of scope ; capital accessibility ; superior management and the low level of information asymmetries (Dogan (2013) , Johnson (2007)).

-There is a positive relationship between ROA and CAP (if CAP increase by 1% ROA will increase by 0.026%) . The increase of capital has a positive impact on return on assets of firm . This relationship is statistically significant at 1% . This result is similar to result found by Isik and Tasqui (2017)

-There is a negative relationship between ROA and CR (if CR increase by 1% ; ROA will decrease by 0.025%) . This result is similar to result found by () but contrary to result found by (Susolo and Wadysti (2020) ; Cheong and Hoang (2021)), Taileb (2014)), Matar and al (2018))

-There is a positive relationship between ROA and Lev (if Lev increase by 1% ROA will increase by 0.0109%) . The increase of leverage has a positive effect on return on assets firm .

This result is similar to result found by Dahmash and al (2021) but contrary to result found by Isik and Tasqui (2017), Cheong and Hoang (2021), Taileb (2014). The firm with greater debt are expected to have higher leverage by using more external funds ; which is more costly and risky and less internally generated .

-There is a negative relationship between FA and ROA (if FA increase by 1% ROA will decrease by 0.0043%)

-There is a negative relationship between CEA and ROA (if CEA increase by 1% ROA will decrease by 0.0075%) . The increase of operating costs has a negative impact on return on assets of firm

-There is negative relationship between PE and ROA (if PE increase by 1% ; ROA will decrease by 0.018%) .

-There is a positive relationship between TPIB and ROA (if TPIB increase by 1% ; ROA will increase by 0.198%) . The increase of economic growth has a positive effect on return on assets of firm . This relationship is similar to result found by Pervan and al(2019) , Isik and Tasqui (2017) , Cheong and Hoang (2021), Matar and al(2018). The improvement in economic conditions enhances firm profits.

-There is a positive relationship between TINF and ROA (if TINF increase by 1% ; ROA will increase by 0.144%) . The increase of inflation has a positive impact on inflation . This result is similar to result found by Pervan and al (2019) but contrary to result found by Cheong and Hoang (2021) , Matar and al(2018)

-There is a negative relationship between ALA and ROA (if ALA increase by 1% ; ROA will decrease by 0.031%) . The increase of asset liquid has a negative impact on return on assets .

I- Interpretations of model (2)

-There is a positive relationship between ROE_{i,t} and ROE_{i,t-1} (if ROE_{i,t-1} increase by 1% ., ROE increase by 0.25%)The lagged variable of ROE has a positive impact on ROE . This result is similar to result found by Cheong and Hoang (2021)

-There is a negative relationship between ROE and Size (if Size increase by 1% . ROE will decrease by 0.072%) . The increase of size has a negative impact on return on equity of firm .This result is similar to result found by (Nguyen and Nguyen (2020) but contrary to result found by Choeng and Hoang (2021), Al Mohammadi and al (2021)

-There is a positive relationship between ROE and CAP (if CAP increase by 1% ROE will increase by 0.143%) . The increase of capital has a positive impact on return on equity of firm .This result is similar to result found by () but contrary to result found by Nguyen and Nguyen (2020)

-There is a positive relationship between ROE and CR (if CR increase by 1% ROE will increase by 0.013%) . The increase of CR has a positive impact on return on



equity of firm . This result is similar to result found by (Ali and Fatma (2021))

-There is a positive relationship between ROE and Lev (if Lev increase by 1% ROE will increase by 0.024%) . The increase of leverage has a positive impact on return on equity . This result is similar to result found by Nguyen and Nguyen (2020) but contrary to result found by Cheong and Hoang (2021), Al Mohammadi and al (2021)

-There is a negative relationship between ROE and ALA (if ALA increase by 1% ROE will decrease by 0.0582%) . The increase of asset liquid has a negative impact on return on equity of firm

-There is a positive relationship between ROE and FA (if FA increase by 1% ALA will increase by 0.027%)

-There is a negative relationship between ROE and CEA (if CEA increase by 1% ROE will decrease by 0.036%) . The increase of operating costs has a negative impact on return on equity .

-There is a negative relationship between PE and ROE (if PE increase by 1% ROE will decrease by 0.227%) .

There is a positive relationship between GDP and ROE (if GDP increase by 1% ROE will increase by 4.28%) . The increase of economic growth has a positive impact on return on equity . This result is contrary to result found by Cheong and Hoang (2021)

-There is a positive relationship between TINF and ROE (if TINF increase by 1% ROE will increase by 1.17%) . The increase of inflation has a positive impact on return on equity of firm .This result is contrary to result found by Cheong and Hoang (2021)

Conclusion

The liquidity and profitability of firm are important for achieving the goals of solvency and growth . It is interesting to study the relationship between liquidity and profitability . In the one hand excess of liquidity decrease the financing of new investment , on the other hand the lack of liquidity decrease the capacity of firm to meet to his obligations .

In this article we used a sample of 30 firms quoted in Tunisian stock exchange for the period (2005...2020) . we employed a method of dynamic panel .

We found that ALA (asset t liquid / total assets) and CD (total credits / total deposits) have negative impact on ROA(return on assets) .

Whereas ALA has negative impact on ROE but CD has positive impact on ROE (return on equity))

References

Ali .M ; Mahmoud A ; Fadi .A ; Mohamed O (2018)

“ Factors affecting the corporate performance : Panel data analysis for listed firms in Jordan” Academy of Accounting and Financial studies journal ; vol 12, n°6, p1-10

Ally .B (2017) “ How financially agile are you ? “
www.ally.com

Bibi.N ; S .Amjad (2017) “ The relationship between liquidity and firm profitability : A case study of Karachi Stock exchange” Asian Journal of Finance and Accounting ; vol 9, n°1,

Cheong .C. ; H.H Hoang (2021) “ Macroeconomic factors or firm specific factors “ An examination of the impact of corporate profitability before during and after the global financial crisis” Cogent Econmic and Finance vol 9 ; p1-24

Dadebo.A.O ; O.E.Afolabi (2020) “ Impact of liquidity management on profitability of selected manufacturing firms in Nigeria “ European Journal of business and management ; vol 12, n°27, p93-99

Dahmash .F; W.Alsalamat ; Msadih N.M ; H .Ashraf (2021) “ The effect of a firm’s internal factors on its profitability : evidence from Jordan “ Investment management and financial innovations ; vol 18 ; issue 2 ; p 130-143

Dogan M (2013) “ Does firm size affect the firm profitability : evidence from Turkey “ Research Journal of finance and accounting vol 4 , n°4 ;

8-Eljelly .A.M.A (2004) “ Liquidity –profitability trade off : an empirical investigation in a emerging market “ International Journal of Commerce and management ; vol 14, n°2, p48-61

Isik , Tasgui (2017) “ Profitability of its determinants in Turkish manufacturing industry : evidence from a dynamic panel model “ International Journal of Economic and Finance ; vol 9, n°8, p66-77



Jenkinson .N ; Stability .F , England .B (2008) “ Strengthening regimes sfor controlling liquidity risk : some lessons from the recent turmoil “ Economy conference on liquidity and funding risk management . London (p1...9)

11-Kant.M.C.T (2018) “ Factors influencing the profitability of manufacturing firms listed on the New York stock exchange “ www.atwente.nl

Kargar .J ; Blunmenthal .R .A (1994) “ Leverage impact on covering capital in small business “ TMA Journal ; vol 14 ; n°6; p36-46

Kimberly A (2018) “ Liquidity ; its glants ; traps and ratios and how the fed manages it ; how it controls the economy and your firms” www.thebalance.cpu

Latridis .G ; Kadorimis .G (2009) “ Earning management and firm financial motives : A financial investigation of UK listed firms “ International Review of financial analysis ; vol 18 , n°4, p164-173

Matar .A ; M Am Radegeh ; M.H Odeh (2018) “ Factors affecting the corporate performance : Panel date analysis for listed firms in Jordan “ Academy of accounting and financial studies journal ; vol 22 , n°6 ; p1-19

Muller .J (2018) “ Understanding financial fragility “ www.investopedia.com

Mustafa .M ; W.A.Sether ; A .Pitafi ; S.M.Karman (2019) “ Impact of liquidity ratio on profitability of firms : an empirical evidence from automobile industry of Pakistan” Research Journal of Finance and Accounting ; vol 10 , n°22; p136-140

Nassirzadeh .F , A.Rostami (2010) “ Studying the relationship between liquidity indices (traditional and modes) and the profitability of companies listed in Tehran stock exchange “

Peavler (2017) “ Analysis of liquidity positive using financial ratios “ www.thebalancenb.com

Pervan M ; I Pervan ; M curak (2019)” Determinants of firm profitability in the Croatian manufacturing industry evidence from dynamic panel analysis “ Economic Research ; vol 32 , n°1, p968-981

Sandhar .S.K ; Janglain .S (2013) “ A study on liquidity and profitability of selected Indian Cement companies : A regression modeling approach “ International Journal of Economics ; Commerce and management ; vol 1; issue 1; p1-24

Soenen.L.A (1993) “ Cash conversion cycle and corporate profitability “ Journal of cash management ; vol 13 ; p43-53

Sudiyatno.B; T.Suwarti (2022) “ The role of liquidity in determining firm performance: An empirical study on manufacturing companies in Indonesia “ European Journal of Business and management ; vol 7 , issue 6 ; p183-188

Taileb .M.M (2014) “ Analyzing factors affecting profitability of non financial US firms” Research Journal of finance and accounting ; vol 5 , p 17-76

Thusraisingan.R (2015) “ The effects of liquidity management on firm profitability : Evidence from Sri Lankan listed companies “ Research Journal of Finance and Accounting ; vol 6, n°5, p129-134

Yameen .M ; N.H.S Farhan ; M.I .Tabash (2019) “ The impact of liquidity on firm’s performance “Academic journal of interdisciplinary studies ; vol 8 , n°3, p212-220

Zulkipli .M ; A .Abdullah ; Kamalddine (2019) “ The relationship between financial leverage and liquidity and firms profitability of the agricultural industry evidence from Malaysian listed firms” Asia Pacific management accounting journal ; vol 14 ,n°3,p203-221