PROFITABILITY AS A LIQUIDITY AND RISK FUNCTION BASING ON THE NEW CONNECT MARKET IN POLAND

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Abstract

In this article the author examines the relationship between profitability and liquidity and risk in emerging companies listed on the New Connect market in Warsaw. This article aims to analyze the five main indicators of profitability expounded by the liquidity ratios that represent different approaches to it. In addition, risk indicators were taken into account in order to deepen the analysis. You may find that different measures profitability are associated with different indicators of liquidity.

Keywords: Profitability, Liquidity, Risk

Introduction

Corporate finance deals with decisions managers make in the fields of capital structure, capital budgeting and liquidity management. Connected to the liquidity - working capital is a very important element of a company financial management since it affects the profitability linked to a level of risk. Efficient working capital management involves planning and controlling current assets and current liabilities in a manner that eliminates the risk of inability to meet short term obligations on one hand and avoids excessive investment in these assets on the other hand (Eljelly, 2004). Working capital management is recognized as the most important liquidity problem represented by the current and quick ratios and acid test levels. Liquidity is defined as a ability to pay the obligations by a company. Liquidity itself may be also measured by cash conversion cycle, cash level or cash flow. It is difficult to point out the best measure of liquidity and therefore author of this article will check the influence of liquidity on profitability in this complex context.

There is a relationship between the profitability and liquidity according to the theory and as it has been mentioned there are some approaches to the liquidity measurement and profitability may be considered in a complex manner as well. Therefore the most important profitability

measures will be taken into account to check the influence of the range of liquidity indicators on those profitability ratios.

Moreover it can be assumed that the more liquid company is the lower risk is associated with such an entity and moreover the more liquid the company the less profitable it is. Assets and liabilities structure analyze can provide the liquidity risk assessment, and the debt ratio corresponds to the financial risk in addition.

Problems of profitability influenced by liquidity and risk will be joined together in this paper to prove that different profitability ratios are influenced by the various liquidity indicators and they are connected to the risk. Usually authors choose one context and provide the results of research in a more general way suggesting that profitability will rise when the liquidity will be lower and risk higher after that but there are many ratios one can take into account and the author will do it in this paper by building five models describing different profitability measures. Author will prove the statement that there is the profitability, liquidity and risk relationship.

One of the submarkets of Warsaw Stock Exchange has been chosen to prove the above statement because developing companies are traded there and the relationship between profitability, liquidity and risk may be more visible than on a regular market. If those companies want to acquire capital for development they have to bring profit higher than average and they can make it while they are more risky. Therefore one can expect that companies listed on New Connect will bring profit by lowering the current ratio, speeding up the cash conversion cycle and making the cash flow rise with higher risk associated with these decisions.

Problem and literature analysis

NewConnect is a part of Warsaw Stock Exchange market and it was developed to establish the access of capital to the fast growing and based on new technologies companies. Polish capital market is not as well developed as western markets and every convenience for companies help them in their development. A new market financing the growth of young companies with a large growth potential, organized and operated by the Warsaw Stock Exchange, has started in late August 2007. NewConnect has the status of an organized market, it is operated by the Warsaw Stock Exchange outside the regulated market as an alternative trading system. It is an offer for young, growing companies, especially in the high-tech sector (but companies from other sectors may naturally be eligible for trading). NewConnect was developed for young dynamic Polish companies which need equity to tap the potential of innovation, this getting a chance to grow and to become one of Poland's large companies. Because of this issuer profile, NewConnect offers more liberal formal obligations and information requirements, which reduces

the cost of capital. NewConnect was conceived as the first step on the exchange market for listed companies. NewConnect is a market for companies:

- with a large growth potential,
- looking for equity between several hundred thousand and several million PLN,
- operating in innovative sectors, mainly with intangible assets,
- (e.g., IT, electronic media, telecommunication, biotechnology, environmental protection, alternative energy, modern services),
- with a vision and a likelihood of an IPO in the exchange market,
- in near future.[1]

Liquidity and working capital relationship to the profitability is one of the most popular research subjects in the area of short-term financial management. Liquidity is defined as an ability to regulate the obligations and therefore the current assets and short-term liabilities levels are so important. Working capital strategy is represented by the current ratio that is the relationship of the current assets to the current liabilities. Analyzing this relationship one can conclude if the company is more or less liquid and therefore risky. The more liquid company is in this sense the less risk of not being able to pay the obligations. Working capital management strategy may be connected to the size and the level of development of the company and the bigger it is the more aggressive policy will choose and offer the subcontractors longer terms of payment and shorten the terms for clients. Small companies doesn't have a choice and have to be flexible by adjusting to the conditions of the market and it means that they offer longer terms of payment for client and agree for shorter periods for subcontractors to be more competitive in both situations. Their strategy is a result of the internal and external factors affecting their decisions.

According to Deloof (2003), the way that working capital is managed has a significant impact on profitability of firms. Such results indicate that there is a certain level of working capital requirement, which potentially maximizes returns. Liquidity and profitability as measured in various ways should be defined and ordered to bring a clear statement.

Cash conversion cycle is a dynamic measure of working capital management as Richards and Laughlin (1980) and Gitman (1974) and Gitman and Sachdeva (1982) presented in their papers suggesting that it is a better ratio than classic working capital measure like a current ratio. Cash conversion cycle shows the turnover in days and can be interpreted as a profitability ratio indicating the effectiveness of work. Jose et al. (1996) analyzed the relationship between the profitability and liquidity measured by

[1] http://www.newconnect.pl/index.php?page=o_rynku_en

cash conversion cycle and they found a strong evidence that aggressive working capital management enhance the profitability measured by ROA and ROE with the pre-tax income. Aggressive working capital is associated with higher risk. Classical working capital ratios like the current ratio show the relationship of the level of cash, inventory, receivables to accounts payables. This level of current assets and liabilities should be established basing on a model of optimization of cash (Baumol, Miller-Orr) or inventories. Inventory management represent the profile of the company since inventories are connected to production, the level of cash is affected by the risk management. Receivables and payables are affected by the market condition and the bigger and more influential company is the larger the payables and smaller the receivables.

Profitability may be measured in many different ways and Lazaridis and Tryfonidis (2006) found statistically significant relationship between profitability, measured through gross operating profit, and the cash conversion cycle and its components (accounts receivables, accounts payables, and inventory). They suggested that managers can create profits for their companies by correctly handling the cash conversion cycle and by keeping each component of the conversion cycle (accounts receivables, accounts payables, and inventory) at an optimal level. Afeef (2011) analyzed the impact of working capital management on the profitability of small and medium companies in Pakistan. Profitability was measured by the return on assets (ROA) calculated basing on earnings before interest and taxes to total assets, and the operating profit to sales. Working capital was represented in that study by current ratio and cash conversion cycle. Cash conversion cycle was used for measuring the efficiency of working capital management. The conclusion of this research is given in a statement that an efficient management of working capital does have a substantial impact on the profitability of small and medium-sized companies listed at Karachi Stock Exchange. The weak but significant relationship was found between the inventory conversion period and the operating profit to sales and a highly significant negative relationship was found between the receivable collection period and the operating profit on sales. The payable deferral period and cash conversion cycle had no significant link with the profitability variable. No relationship was found between working capital indicators and ROA.

Gill et al. (2010) provided a research extending Lazaridis and Tryfonidis's (2006) findings regarding the relationship between working capital management and profitability. A sample of 88 American firms listed on New York Stock Exchange for a period of 3 years from 2005 to 2007 was selected and authors found statistically significant relationship between the cash conversion cycle and profitability, measured through gross operating profit. Higher cash conversion cycle may increase profitability because it

leads to higher sales when clients expect longer terms of payment. However, corporate profitability may decrease with the cash conversion cycle increasing, if the costs of higher investment in working capital rise faster than the benefits of holding more inventories and/or granting more trade credit to customers.

Eljelly (2004) empirically examined the relationship between profitability and liquidity, as measured by current ratio and cash conversion cycle on a sample of joint stock companies in Saudi Arabia and he found significant negative relationship between the firm's profitability and its liquidity level, as measured by current ratio. This relationship is more pronounced for firms with high current ratios and long cash conversion cycles as it was suggested before.

Raheman and Nasr (2007) found a strong negative relationship between variables of working capital management and profitability. They found that as the cash conversion cycle increases, it leads to decreasing profitability of the firm. Garcia-Teruel and Martinez-Solano (2007) found that shortening the cash conversion cycle improves the firm's profitability.

The paper by Gilmer (1985) concerns with testing empirically for the existence of an optimal level of liquid assets for firms in a given industry. The precautionary motive arises from the possibility of unexpected cash needs. Inadequate holdings of liquid assets expose the firm to "shortage" costs, such as missed discounts on trade credit, higher transaction costs in converting illiquid assets, higher interest rates encountered with quickly negotiated loans, possible lower credit ratings, and the expected costs of insolvency. These shortage costs decline as liquid asset balances increase. Motives are connected to the risk level so there should be the relationship between the level of current assets, risk and profitability that is influenced by them. It should be taken into account that on the other hand, liquid assets impose "holding" costs on the firm. These arise from forgone opportunities to invest in less liquid but more productive assets. The study of Gilmer supports the thesis of existence of an optimal level of investment in liquid assets which varies over time. As the relative amount of liquid assets increases, returns initially increase because of significant reductions in shortage costs. Beyond some optimal level, returns begin to decline.

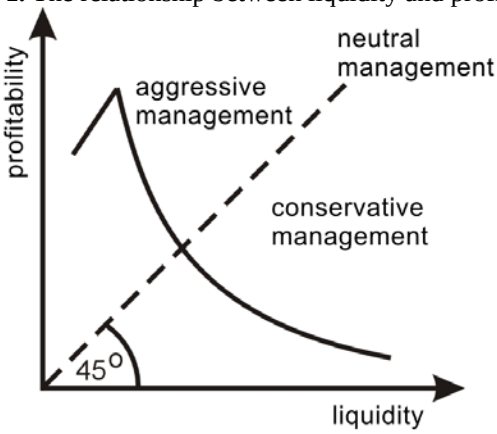
Jose et al. (1996) examined the relationship between the company return and liquidity measured by cash conversion cycle and they found out that the aggressive working-capital strategy enhances the profitability. The study by ALShubiri and Arab (2011) investigated the relationship between aggressive/conservative working capital practices and profitability as well as risk on the Pakistani market. The results indicated a negative relationship between profitability measures and working capital aggressiveness, investment and financing policy. Firms have negative returns if they follow

an aggressive working capital policy. In general, there is no statistically significant relationship between the level of current assets and current liabilities on operating and financial risk in industrial firms. There is some statistically significant evidence to indicate a relationship between standard deviation of return on investments and working capital practices in banks but we cannot compare these results directly since there is a different financial frame in banking.

Dilemma in working capital management is connected to the desired trade off between liquidity and profitability (Smith, 1980; Raheman and Nasr,(2007) and is connected to the risk as it was mentioned before. Referring to theory of risk and return, investment with more risk will result in higher return. Thus, firms with high liquidity defined by a high current ratio level (and large working capital engaged in operations) may have low risk and low profitability. The issue here is in managing working capital, firm must take into consideration all the current assets and short-term liabilities and try to balance the risk and return. Shin and Soenen (1998) and Deloof (2003) show profitability and risk-adjusted returns that are inversely related to the cash conversion cycle suggesting that aggressive working capital policy significantly improves firm performance. Carpenter & Johnson (1983) provided empirical evidence that there is no linear relationship between the level of current assets and revenue systematic risk of US firms; however, some indications of a possible non-linear relationship were found which were not highly statistically significant.

The results of research presented above show that the relationship between liquidity and profitability may vary on different markets and different liquidity and profitability indicators may be taken into consideration to verify this problem. Although in the beginning of the value of the ratio an increase in liquidity ratios also means an increase of a company's profitability, but at some point the relationship changes and a further increase in liquidity ratios may lead to bankruptcy since the company may be over liquid and generate to low rate of return by investing to much capital in the working capital. This dependence is presented in Figure 1 but it is only the theoretical assumption and different markets may be characterized by a different liquidity-profitability line (LPL).

Figure 1. The relationship between liquidity and profitability



Source: *Gajdka, J., Walińska, E. (1998). Zarządzanie Finansowe. Teoria i praktyka. Warsaw: FRR, vol. II, p. 467*

The study by Khan et al. (2011) investigated the hypothesis that working capital management has effect on profitability and there exist a trade-off between risk and return. Moreover this study highlighted the effect of different variables on net profit margin like average collection period, average payment period, inventory turnover in days, cash conversion cycle, leverage and size of firm. Authors of this study concluded that there exist a moderate risk-return trade off in between profitability and liquidity hypothesis. Moreover working capital management has significant impact on profitability regarding to textile sector in Pakistan.

The level of current assets and current liabilities should be monitored, but also established in a long-term strategy. This can reduce hazard decisions and uncertainty connected to risk assessment. This can also create a predictable stream of processes and projects in a company. The more transactions the higher the level of current assets and liabilities, which can also influence the level of working capital. The more conservative policy the more long-term capital will be used to finance working capital and the lower the return and value added ratios. Assets and liabilities structure may be considered as risk indicators that are connected to the profitability as it is presented in table 1.

Table 1. Working capital strategy, risk and return

	Low Current Assets/Total Assets ratio	High Low Current Assets/Total Assets ratio
High Current Liability/Total Liability ratio	High return, high risk Aggressive policy	Medium return, medium risk Moderate policy
Low Current Liability/Total Liability ratio	Medium return, medium risk Moderate policy	Low return, low risk Conservative policy

Source: Sierpińska M., Nesterak J. (1996), Przedsiębiorstwo na rynku kapitałowym, Wydawnictwo Uniwersytetu Łódzkiego, pp. 197–206

Analyzing the structure of the balance sheet, one can distinguish four approaches. The first scenario is connected to a high level of current liabilities and a low level of current assets, indicating negative working capital and an aggressive approach. The moderate approach is represented by either a high level of current liabilities and a high level of current assets or a low level of current liabilities and current assets. In the last scenario, the conservative approach is characterized by a low level of current liabilities and a high level of current assets.

The conclusion is that there are some profitability measures, some approaches to liquidity and the risk taxonomy is wide therefore the author of this paper proposes the study on all most important profitability ratios described by the liquidity indicators all together with the risk indicators (based on ratios) in a company.

Methodology and data

The author has taken the data of the non-financial companies listed on the New Connect market on Warsaw Stock Exchange in the period 2007-2012 into consideration. The ratios have been calculated basing on the financial documents restarted in Notoria database and some of them were taken directly from this database. First of all the most popular profitability ratios have been calculated:

GM – Gross Margin,
INM – Income Net Margin,
OPM – Operating Profit Margin,
ROA – Return on Assets,
ROE – Return on Equity.

The formulas are as follows:

$$GM = \frac{EBT}{S} * 100\% \quad (1)$$

$$INM = \frac{IN}{S} * 100\% \quad (2)$$

$$OPM = \frac{OP}{S} * 100\% \quad (3)$$

$$ROA = \frac{IN}{A} * 100\% \quad (4)$$

$$ROE = \frac{IN}{E} * 100\% \quad (5)$$

Where:

TA – Total Assets,
S – Sales,
EBT – Earnings Before Tax,
GPS – Gross Profit from Sales,
IN – Income Net,
OP – Operating Profit,

E – Equity.

Moreover the liquidity ratios representing different approaches to this problem have been calculated. Net cash flow comes directly from financial documents, both levels of cash flow are standardized by dividing them by total assets according to Moss and Stine (1993) proposal.

CR – Current Ratio,

CCC – Cash Conversion Cycle,

NCF/TA – Net Cash Flow,

FCF/TA – Free Cash Flow.

The formulas are as follows:

$$CR = \frac{CA}{CL} \quad (6)$$

$$FCF = EBIT(1-T) + DA - CWC - CE \quad (7)$$

$$CCC = \frac{\frac{I}{COGS}}{365} + \frac{\frac{AR}{S}}{365} - \frac{\frac{AP}{COGS}}{365} \quad (8)$$

Where:

T – Tax rate,

DA – Depreciation and Amortization,

CWC – Change in Working Capital,

CE – Capital Expenditure,

CL – Current Liabilities,

CA – Current Assets,

I – Inventory,

AR – Accounts Receivable,

AP – Accounts Payable,

COGS – Costs of Goods Sold.

Moreover some rations referring to the company risk level were calculated:

DR – Debt Ratio,

LS - Liability Structure,

AS - Assets Structure.

The formulas are as follows:

$$DR = \frac{TL}{TA} \quad (9)$$

$$LS = \frac{CL}{TL} \quad (10)$$

$$AS = \frac{CA}{TA} \quad (11)$$

Where:

TL – Total Liabilities.

Five models according to the number of profitability ratios have been built and assessed using the OLS regression in GRETL.

$$\text{Profitability}_{ot} = \beta_0 + \beta 1\ (DR_{ot}) + \beta_2\ (LS_{ot}) + \beta 3\ (AS_{ot}) + \beta_4\ (CCC_{ot}) + \beta_5\ (CR_{ot}) + \beta_6\ (NCF/TA_{ot}) + \beta_7\ (FCF/TA_{ot}) + \varepsilon_{ot}$$

Referring to the risk if both asset structure ratio and liabilities structure ratios are growing it means that both current assets and liabilities are growing or total assets and liabilities are descending so the risk will be moderate the same as the profitability. The same explanation will be for the same negative coefficient sign for these ratios meaning the descending of both current assets and liabilities or growth of total assets and liabilities. The simultaneous change will refer the moderate strategy. If the assets structure ratio is growing and liability structure ratio is falling it means that current assets are growing and current liabilities falling then such a situation will generate lower risk and should be followed by lower profitability. The last scenario is connected to the assets structure ratio falling and liabilities structure ratio growing and it means that the company is realizing the aggressive working capital strategy which generate more risk and larger profit. The conclusion is shown in table 2.

Table 2. Assets and liabilities structure ratios influencing the profitability in a model – theoretical assumption

	Growing CA/TA coefficient	Falling CA/TA ratio coefficient
Growing CL/TL ratio coefficient	High return, high risk Aggressive policy	Medium return, medium risk Moderate policy
Falling CL/TL ratio coefficient	Medium return, medium risk Moderate policy	Low return, low risk Conservative policy

Source: Author's work based on Sierpińska M., Nesterak J. 1996, Przedsiębiorstwo na rynku kapitałowym, Wydawnictwo Uniwersytetu Łódzkiego, pp. 197–206

There have been five models built referring to mentioned profitability ratios and the dependent variable is described by three risk indicators and four liquidity ratios but what is most important the direction of the influence will matter since author want to check the theory saying that the higher the liquidity, the lower risk and lower profitability or reverse.

Results

Five models have been proposed with profitability ratios being explained by the same set of liquidity and risk ratios. The relationship between the ratios will be checked to see the direction and the strength of the influence. First model is connected to Gross Margin that is one of the most popular profitability measures. This ratio is calculated by dividing the earnings before tax by sales. It grows when the earnings are growing faster than sales so if the entity earns more on every marginal piece of product sold.

Table 3. Model results with dependent variable gross margin (GM)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	0,0424949	0,0314883	1,3495	0,17758	
DR	-0,184626	0,0377886	-4,8858	<0,00001	***
LS	6,60179e-06	6,97506e-06	0,9465	0,34421	
AS	0,17931	0,0469846	3,8164	0,00015	***
CR	0,0037487	0,00177784	2,1086	0,03532	**
FCF/TA	0,158983	0,0332115	4,7870	<0,00001	***
NCF/TA	-0,0292186	0,0878753	-0,3325	0,73961	
CCC	-1,89652e-05	2,17979e-05	-0,8700	0,38456	

The results of this test are presented in table 3 and there are two significant liquidity ratios influencing the gross margin. Current ratio coefficient is positive but very small and it means that if the current assets are growing or current liabilities are decreasing than the ratio is growing and the gross margin is slightly growing, too. The second liquidity ratio influencing the gross margin is the free cash flow to total assets and the coefficient is also positive here indicating the growth of this ratio and gross margin. Only financial risk indicator measured by debt ratio is relevant and the coefficient is negative meaning that the higher the ratio the lower the gross margin. The debt ratio grows when debt amount falls so we can interpret this relationship to the leverage and conclude that the higher the debt the lower the ratio and the higher the gross margin. This result is adequate to the theory and the fact that the tax shield influence positively the profitability. The asset and liabilities structure indicating risk cannot be explained because the liabilities structure is not statistically significant, both positive coefficients could be explained as the moderate strategy.

Income net margin is the ratio showing the relationship between the income net to sales of a company. The results of the influence of ratios on the profitability measured by income net margin are presented in table 4.

Table 4. Model results with dependent variable income net margin (INM)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	-0,0381722	0,0321031	-1,1891	0,23480	
DR	-0,228085	0,0410098	-5,5617	<0,00001	***
LS	3,81411e-06	7,09869e-06	0,5373	0,59122	
AS	0,233163	0,0472889	4,9306	<0,00001	***
CR	0,00204014	0,00177509	1,1493	0,25079	
FCF/TA	0,134629	0,0341327	3,9443	0,00009	***
NCF/TA	0,0709276	0,0888982	0,7979	0,42521	
CCC	-5,28555e-05	1,49717e-05	-3,5304	0,00044	***

Cash flow to total assets as a liquidity measure is influencing the income net margin positively and it means that if cash flow grows than INM grows, too. Another liquidity measure, cash conversion cycle is affecting the income net margin in an opposite way and if it goes down than the profitability measured by the income net margin rises. The risk indicator connected to the leverage has the same influence as in the previous model suggesting the relationship between the profitability and debt to be positive meaning that if the debt is growing, than the debt ratio is falling and profitability is growing. Only asset structure is statistically significant so we cannot conclude basing on this results about the working capital risk.

Operating profit margin is the margin corresponding to operating profit. In Table 5 there are result of the regression presented.

Table 5. Model results with dependent variable operating profit margin (OPM)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	-0,0348867	0,0268628	-1,2987	0,19445	
DR	-0,199144	0,0325425	-6,1195	<0,00001	***
LS	2,24746e-06	6,0251e-06	0,3730	0,70924	
AS	0,230717	0,0402784	5,7281	<0,00001	***
CR	-0,000213471	0,00150518	-0,1418	0,88726	
FCF/TA	0,159601	0,0286636	5,5681	<0,00001	***
NCF/TA	-0,00529981	0,0756551	-0,0701	0,94417	
CCC	-2,26433e-05	1,31496e-05	-1,7220	0,08549	*

The results suggest the significant and positive influence of the free cash flow on operating margin and a negative on cash conversion cycle. The results are very similar to those connected to the income net margin. It is very interesting that the liability structure doesn't influence the margins described in this research.

Margins are calculated basing on the profit and loss account while the return ratios are calculated basing on the balance sheet and profit and loss account so the results are expected to be different. Return on assets shows the rate of productivity of assets and the results of regression are presented in table 6.

Table 6. Model results with dependent variable return on assets (ROA)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	0,000571177	0,0188915	0,0302	0,97589	
DR	-0,229172	0,0247135	-9,2731	<0,00001	***
LS	1,27541e-06	4,34879e-06	0,2933	0,76939	
AS	0,224218	0,0279908	8,0104	<0,00001	***
CR	-0,000993561	0,000693799	-1,4321	0,15253	
FCF/TA	0,21216	0,0215235	9,8571	<0,00001	***
NCF/TA	0,169958	0,0487621	3,4854	0,00052	***
CCC	1,58747e-07	2,26509e-07	0,7008	0,48361	

According to the results only ratios based on cash flow significantly influence the profitability measured by ROA in a positive way. Both CR and CCC are not strongly correlated to the profitability. Risk represented by the debt ratio is linked negatively to the return as before and the liability structure ratio is not significant so we cannot explain the risk influence.

Last analysis is connected to return on equity ratio and the results are presented in table 7.

Table 7. Model results with dependent variable return on equity (ROE)

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	-0,0731151	0,0346089	-2,1126	0,03497	**
DR	-0,206147	0,0598836	-3,4425	0,00061	***
LS	2,05607e-06	7,4046e-06	0,2777	0,78134	
AS	0,383888	0,0509244	7,5384	<0,00001	***
CR	-0,000281476	0,00120561	-0,2335	0,81546	
FCF/TA	0,264588	0,0392321	6,7442	<0,00001	***
NCF/TA	0,0333237	0,0914858	0,3642	0,71578	
CCC	-3,94398e-07	3,8827e-07	-1,0158	0,31007	

The results of this model are disappointing, only free cash flow to total assets significantly influence the profitability represented by ROE in the field of liquidity. DR ratio is negatively correlated to profitability, and the asset structure is significant and positively correlated to ROE suggesting that the higher this ratio the higher the profitability.

Conclusion

In this article the problem of profitability has been explored and as it was presented above it can be measured as the margin or as the return ratios. Five different models have been built to verify the relationship between the profitability and liquidity measures and financial ratios connected to risk. Since the survey has been done on the emerging market the author expected results showing the aggressive policy in managing those companies. Unfortunately the liability structure ratio was not significant in all models and the relevant conclusion connected to risk in the area of working capital management was not possible . Only the debt ratio negative relationship to all profitability ratios was significant in every model suggesting, according to the expectations, that the lower the ratio (because of higher debt) the higher the risk and profitability.

The liquidity of a company may be represented by the current ratio connected to the working capital, cash flow based ratios and the cash conversion cycle. Current ratio influenced slightly the gross margin, the cash conversion cycle was negatively correlated to the operating profit margin and the income net margin. Free cash flow to total assets was positively

correlated to every profitability ratio in a positive way and only once the accounting cash flow influenced the profitability in the case of return on assets.

These results prove that every profitability ratio is influenced by different liquidity and risk factors but the relations are similar and we can expect the growth of profitability when free cash flow is growing and the cash conversion cycle is falling. In every model the assets structure ratio was significant suggesting that the higher this ratio is (the current assets grow) the higher the profitability suggesting the conservative approach to working capital. This result is surprising since the developing and based on high-tech companies should be more aggressive in their operational management. The growth of leverage influence profitability in a positive way meaning the rise in risk and profitability in the same direction.

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