

THE LIQUIDITY RATIOS AND THEIR SIGNIFICANCE IN THE FINANCIAL EQUILIBRIUM OF THE FIRMS

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Abstract:

The year of 2008 was an important inflection point of the world's economy evolution. Most of the economists talk about a banking crisis, some of them talk about a financial crisis, and a part of them agree that we are facing also a liquidity crisis. Following this idea, the objective of this working paper is to analyze the liquidity ratios and their significance in the financial equilibrium of the firms. The working paper points out the most important liquidity ratios: general liquidity ratio, intermediar liquidity ratio, fast liquidity ratio, acid test, their indicated values, the importance of using the quick-selling value in calculating the ultimate liquidity ratios, the connection of this ratios with the economic equilibrium of the firms. The conclusions underline the importance of permanent monitoring the liquidity ratios, interpreting their values facing the economic branch the firms are dealing in, and the importance of deep and detailed financial analysis using the ultimate liquidity ratios

Keywords : liquidity, liquidity ratios, quick liquidity ratios, quick -selling value, financial equilibrium

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INTRODUCTION

The analysis of liquidity focuses on the measure in which the companies have the ability to honor their obligations having an eligibility term less than a year, current debts that must be covered from the assets with a similar term of transformation in liquidity. Among the factors that influence the liquidity are the domain of the activity, the degree of maturity of the company and its size, the season of the business, the economic circumstances, the structure of the assets, the structure of the current assets, the rotation speed of the current assets, the financial structure.

DEFINITIONS AND OPINIONS REGARDING LIQUIDITY

The logic of the liquidity analysis is in the opinion of Univ. Prof. Dr. Petru Stefea the more and more severe testing of the payment capacity of the short term debts from the elements of current assets nature which have greater and greater liquidity degrees.[7] - [8]

Within this frame there are three possible calculations of the liquidity indicators:

The rate of the current or general liquidity : it measures the capacity of the company to honour its obligations on short term from the current assets and to compare all the potential liquidities associated to the current assets with all the debts due to be paid in less than one year.[17]

The calculation formula supposes the reporting of the Current Assets to the short term Debts, and the reference margin of the indicator is set between minimum and inclusive 1 and maximum 2. When the value is below 1 we talk about a decapitalisation of the company, of the lack of payment capacity on short term. No value that is bigger than the number two is an advantage being associated to an inadequate administration of the current assets; in this case we talk about a too high exigibility degree.[13]

The ratio of the rapid liquidity: it expresses that capacity of the company to pay its short term debts from the claims, the short term cash and financial investments. It must be noted that the stocks that have the slowest potential to be transformed in liquidities, are excluded from the calculation of this indicator.

Thus, the calculation formula means the report between the current Assets from which we deduce the stocks and the short term debts. The reference period of the indicator is between the

minimum and inclusive 0.6 and maximum 1. When the value is below 0.6 we talk about an inadequate structure of the current asset, with a too big weight of the stocks. No value that is bigger than 2 is an advantage as it is associated to an inadequate administration of the current assets, which means a level of the claims that is too high, which leads to a risk of receiving the cash, as well as a too high volume of the available cash. [1]

The rate of the immediate liquidity reflects the capacity where the short term debts can be covered by cash availability and short term financial investments. The reference interval is between minimum and including 0.2 and 0.6. When the value is under 0.2 we talk about an inadequate administration of the claims and implicitly of the current asset from the point of view of the liquidity. No value that is bigger than the superior limit is regarded as an advantage being associated to a passive management of the availabilities or, on the contrary, the sign of an efficient administration of the cash excess as a result of financial investments.[11]

According to Univ. Prof. Dr. Silvia Petrescu, the author of the book *The Financial – Accounting Analysis and Diagnosis*, second edition, issued at CECCAR Publishing House, Bucuresti 2008, the liquidity measures the ability of the company to face the short term obligations and it reflects the capacity to rapidly transform the current assets in cash. A company is considered liquid when the resources issued by the current operations of the exercise supplies enough cash in order to face the short term payment settling day and the liquidity degree expresses the quality of the financial balance of the company on short term. [6]

Concerning the advanced indicators, the following are presented:

- the general liquidity installment, which expresses the potential liquidity degree and it varies function of the sector, it is usually sub unitary in distribution, for example, and almost 2 in industrial sectors having long cycle, and the calculation formula is represented by the report between the Current Assets and the Current Debts.

- The reduced liquidity installment which reflects the reimbursement capacity of the short term debts: the optimum indicated value being over 0.5.

- The immediate liquidity installment, rapid or the acid test, which is also called the treasury installment, it reflects a liquidity warranty for the companies, and the advanced values in order to be optimum are situated at a minimum level of 0.2 -0.3.

According to the financial- accounting dictionary on the site www.expertizacontabila.ro, the liquidity indicators are explained as follows: [9]

- Current liquidity: it reflects the possibility of the patrimony elements to transform in short time in liquidities in order to pay current debts, if the total value of the current liabilities is greater than the total value of the current assets than this indicator is sub unitary and this could show that short term financing has been used for acquiring “long term assets”, which, normally is regarded as dangerous, although there are branches for which a smaller value than 1 of this indicator is regarded acceptable, the current liquidity is considered satisfactory for values between 1.2 and 1.9 the calculation formula: current assets/ current debts.

- Quick liquidity: it reflects the possibility of paying the debts on short term from the cash that is in the cashier, of the cash in the bank, and from the short term investments. In order to be considered favorable, the indicator must be oriented to a unitary size. Calculation formula: Treasury/ Short term debts.

- Rapid liquidity (acid test): it shows the possibility of the current assets transformed in claims and treasury in order to cover the current debts; the stocks are excluded as they have the least liquidity character among the current assets. The rapid liquidity is satisfactory for values that are between 0.65 and 1. Calculation formula: (current assets - stocks)/ current debts.

According to the applicable OMFP 1752/2005 a series of indicators need to be calculated, for the liquidity area the indicators that are recommended are:

Liquidity Indicators

a. Current liquidity: the ratio between the Current Assets/ Current debts. This indicator aims at the operating capital and offers the warranty of covering the current debts from current assets. The recommended value for this indicator is around 2.

b. Quick liquidity : the ratio between (Current assets - Stocks)/ Current debts

This indicator is also known as "The acid test" and it has the same significance as the previous indicator, but on a smaller area.

According to the economic analyst Adrian N Ionescu author of the article "The liquidity of the company", published in the edition from 14th March 2008 of the business journal Business Standard, the current installment of the liquidity is calculated reporting current assets from the company balance sheet, corresponding to a certain period of time, to the current debts (on a short term.)

According to a more or less didactic interpretation, the current installment of the liquidity reflects the possibility of the current patrimony elements to be transformed in a short period of time in liquidity in order to pay current debts. If the total value of the current liabilities is greater than the total value of the current assets, then this indicator is sub unitary and this can indicate at least a certain discomfort for the financial manager to finance the debts. This discomfort can come from financing some long term acquisitions, from the resources on a short term, which usually is contra indicated. There are some economic branches for which a sub unitary value of the current installment is considered acceptable. The general liquidity is considered satisfying on the value margin between 1.2 and 1.9. [15]

The quick liquidity is also known as the "acid test". It is calculated reporting the difference between the operating assets and the value of the stocks to the current debts. The quick liquidity reflects the possibility of the claims and of the treasury to cover the current debts. The value of the stocks is not considered in the total operating assets, because they are the most difficult to be transformed in liquidities and because there is a greater risk of losses to be registered compared to their registration value. The quick liquidity is satisfactory for values that are between 0.65 and 1.[14]

You can see there are various opinions, and ways to regard the liquidity, as an element of business worthiness which influences the balance of a company. As we can see there are elements that unifies these approaches, such as the definitions and the calculations options of the indicators, their interpretation, as well as the elements that differentiate them, such as the reference intervals of the liquidity indicators.

PERSONAL CONSIDERATIONS REGARDING THE LIQUIDITY RATES

From my point of view the liquidity reflects the capacity of the company to transform assets in cash, as the Americans say. There is a very important aspect which is not considered in any definition, and in many professional areas it is regarded as a useless detail: there is no reference in any calculation formula as to the value at which this transformation is made, fact that will affect the values of the indicators as well. There is an aspect that in these crisis circumstances has given a lot of work to the creditors in economy, as well as to the responsible managements and investors. Would this be the net accounting value, the value that can be made, the market value or the fair value? Or is it a certain other value? What value would that be?

Let us take the definitions of these categories one by one.

The net accounting value represents the entrance value, less the depreciation and the adjustments for the depreciation or loss of value, cumulated.

The net value to be realized represents the estimated sale price which could be obtained during the normal course of the activity, less the estimated costs for finalizing the good, when it is the case, and the estimated costs necessary for the sale.

The market value represents the price at which the transaction of a good, a service or some work can be made in the specific conditions of the respective market.

Fair value represents the amount for which the asset could be changed willingly between the parties within a transaction with the price objectively determined.

As far as the products are concerned, the production cost contains the acquisition cost of the raw materials and the other materials used in production and the production costs directly attributed to the product. The production cost or the cost of processing the stocks contain the direct expenses attributed to the production, such as: direct materials, the energy used in technological purposes, direct labour force and other direct production expenses, as well as the indirect costs quota that is allocated rationally as being connected to their production. Within the production cost a reasonable proportion from the expenses that can be indirectly attributed to the product can be included, as far as these are connected to the production period.

As far as the merchandises are concerned, the acquisition cost contains the purchase cost, the importation costs and other taxes (except those that the society can recover from the financial authorities), the transportation costs, manipulation and other expenses that can be directly attributed to the acquisition of the respective goods. According to OMFP 1752/2005 the commercial discounts given to the supplier are not included in the purchase cost.[12]

If we go further in details, we can shortly comment upon all these: the net account value might not be of date in the circumstances of an economy where there is inflation and deflation. The net accomplishable value represents a price that can be obtained under the circumstances of a normal activity deployment. That is all right, but what do we do when there are troubles in the respective business (conflicts between associates, a business that generates loss that must be covered, debts that must be urgently paid) or in the whole economy, as it happens now? The market value is a specific value of the parameters of a market. When there is urgent need of liquidity, the priority will be to acquire it and in this way any legal attempt is made to valorize it, not necessarily in the terms of a certain market. [5]

The fair value means according to its definition parts that are aware, or, when the cash is needed, it does not really count many times if the one that buys one of your assets is aware nor if the price is objectively determined. In order to foresee these elements and to correct them, in the profound liquidity analysis we use a value that is called liquidity value. This value represents a certain percentage from the values stated before, established by the specialists in evaluations and it reflects the value equivalent of the price that can be obtained in the circumstances of quick sale of the assets for the generation of liquidity. Using these liquidity values in the calculation formulas lead to obtaining the so called last instance liquidity rates.[3] –[4]

Practically I consider that it is absolutely necessary to permanently use the analysis model detailed by using the liquidity values corresponding to the balance structures of operating assets.

CALCULATION FORMULAS OF THE LIQUIDITY RATES

From the point of view of the calculation formulas I propose the following:

$$\text{- general liquidity rate} = \frac{\text{Operating assets}}{\text{Short term debts}} \quad (1)$$

From the point of view of the reference interval we can generically accept the interval [1 – 2), but it is necessary to analyse the business worthiness based on liquidity, of the respective economy branch, of the economic circumstances, so that the little plus or minus variations would not automatically be transposed in imperative conclusions. For example, a commercial company that deploys its activity in the field of processing the agriculture products harvested summer – autumn (of the corn, flour) being connected to the season character in the agriculture, will have different liquidity indicators in different times of the year, for the reasons related to the very good cost of the autumn stocks, it will purchase many stocks in that period of time, even by accessing some credit lines (which are, as it is well known short term debts) and thus it might seem that this

indicator is not the best one for the company. But these companies benefit from extremely competitive costs for their raw materials in that period of time (in these times out of season the cost of the raw materials of this type can be double or even triple), generating in this way economies that will be found in the cash flows and the profit in the period of winter - spring, when the liquidity indicator enters again in the parameters that I (we) accept.

Operating assets - Stocks

$$\text{- Intermediary liquidity rate} = \frac{\text{Operating assets - Stocks}}{\text{Short term debts}} \quad (2)$$

From the point of view of the interpretation of the reference interval we can generically accept the interval [0.51 – 1), but I underline again the importance of the detail of the analysis function of the activity, domain, branch, etc. As we can observe, the significance of this indicator is deeper, as it does not include in the operating assets, the stock elements that are accepted as having the most reduced probability of transforming them in cash. Thus we still have in the calculation the claims, the short financial investments, and the cash availabilities. In this stage of the analysis the structure of the claims becomes extremely important. The majority of the economic agents create their claims after operations of sale on commercial credit, accepting checks and/or promissory note. Their payment terms can be also different. In my practical activity I have seen cases of long term contractual commercial between partners where the payment term of the creditation titles were greater than 18 months. In such cases the claims that are greater than one year must be drawn out from the calculation of the liquidity rates. In the same time the structure of the claims can influence the capacity to transform these in cash flows. The great part of the claims that are based on checks and order payment reflect a great risk that is taken by the administrators that can lead to negative liquidities as a consequence of non payment (willingly or by chance) on the side of their partners. In the present times, in Romania, 90% of the commercial transactions are paid with a medium delay of 120 days, according to the data from the risk management company Coface Romania. Thus, there are opinions among the economic analysts that state that a operating asset structure that has great part of the claims based on commercial credit is more dangerous than the one based on stocks. [16]

Operating assets – Stocks - Claims

$$\text{- quick liquidity} = \frac{\text{Operating assets – Stocks - Claims}}{\text{Short term debts}} \quad (3)$$

From the point of view of the reference interval we can generically accept the interval [0.2 – 0.50], but again I must underline the importance of detailing the analysis function of the activity, domain, branch, etc. As we can notice, the significance of this indicator is even more profound, as it includes from the operating assets, the stock elements that are accepted as being the most reduced probability of being transformed in cash and the claims, which from the point of view of the potential to become cash can raise similar problems as those that we stated previously. At the basis of the calculation of this rate of liquidity there still remain the short term financial investments and the cash availabilities. It is essential to read correctly this indicator.

The short term financial investments are liquid especially when at the basis of the transaction there is a regulated market such as the capital market, but under these circumstances there is the risk of decreasing their value. Among the short term financial investments the most liquid sure and efficient are the investments in state titles. In the same time it is accepted that a part of this quota of the financial investments made on medium and long terms, which form the moment of the analysis become due for payment in less than a year, such as some parts of the obligations emissions.

On the second hand it is important to underline the fact that it is not good that this indicator should have a high value also for the reason that the most inefficient assets from the point of view of the returned profits are the cashier money and from the current accounts, so that the management of the liquidity must take into account this aspect as well. It is well known that the cash that is in the cashier does not generate profit, but its weight in the firms with relevant activities is insignificant because there are anyway legal limitations regarding the cashier limit and the cash operations, and the liquidity from the current accounts are rewarded only with a small rate of interest, several times under 0.5% per year. An improvement of this indicator, especially at the firms that have a high level of cash is realized by the overnight deposits and of the economy accounts, which generate entrances that are much more efficient for the firms and in the same time it does not affect the capacity of transforming them in cash, due to the terms that are extremely low (under 24 hours, or at sight.) Also, the reference limits for this indicator must not be regarded rigidly. Thus at the financial investment societies and in the banking institutions we will meet often higher rates of this indicator, due to their business specific.

I would like to make one more comment: the majority of the opinions in the specialty literature do not clarify one aspect: what is the "acid test?" and if this liquidity indicator is overwritten on the quick liquidity. I wish to make a clarification which for me is obvious and I consider also correct: the acid test refers to the ratio between the Cash Availability and the Short term debts (attention: without financial investments on short term) and it is an indicator of liquidity that is meant to verify the capacity of the companies to face the immediate liquidity risk which is translated through the impossibility of making urgent payments.

Now I should return to what I call last instance liquidity. Following the calculation formulas stated previously in the calculation of the liquidity rates, the difference between these and the last instance liquidity rates is the value that we use. I underline again that these last instance liquidity rates reflect some sort of stress test of liquidity, a capacity to find liquidities under pressure and in an extremely short period of time. Because of that instead of the values written in the annual financial statements it is important to use in the detailed liquidity analysis the liquidity values corresponding to the positions that reflect the operating assets.

As a short example: we suppose that the value of the operating assets in a company written in the annual financial statements is of 1.000.000 Ron, and the short term debts are of 800.000 Ron. It is requested to calculate the general liquidity and the last instance liquidity rate. After the professional expertise of an evaluation company it was established a liquidation value of the operating assets at the equivalent of the amount of 750 000 RON.

The rate of general liquidity = $\frac{\text{Operating assets}}{\text{Short term debts}} = \frac{1.000.000}{800.000 \text{ RON}} = 1.25$

Last instance liquidity rate = $\frac{\text{Operating assets at the liquidation value}}{\text{Debts on short term}} = \frac{750.000 \text{ Ron}}{800.000 \text{ Ron}} = 0.93$

Interpretations: the company can under normal functioning conditions of the market and business to face in good conditions the need to pay short term debts but under the circumstances where the economy begins to function under pressure or there are crisis situations on the market, or the company will be liquidated as a matter of emergency, and under the circumstances of a rapid liquidation of stocks in order to cover short term debts, this will have problems in total payment of short term debts.

Judging in a balanced manner (and not on the extremes) the situation of the general liquidity of this company is good and under the conditions of a good management it can overpass in good conditions a situation of crisis. Otherwise, the arithmetic average of the two rates $(1.25 + 0.93)/2$ is within the agreed interval as being acceptable for this indicator.

FINANCIAL LIQUIDITY AND BALANCE LIQUIDITY RATES AND THE TRADING CAPITAL

The liquidity cannot be analysed only from one angle, that of the rates. This must be regarded from two points of view:

- The liquidity calculated based on the structure of the balance sheet and which reflects in the net amount the financial Trading Capital of the company (the so called the balance sheet liquidity)
- The liquidity calculated as a ratio between two elements of asset, which expresses in percentage the possibility to rapidly change and counter currency the liquidity degree of the company (the liquidity rates.)

Referring to the balance sheet liquidity, which sets in connection the interdependence that exists between the liquidity rates and the financial balance of the economic entities, the starting point is represented by the calculation of the trading capital. The calculation basis is the financial balance sheet. This structure of balance sheet supposes that the resources with long exigibility will be regrouped in a new post that is called permanent capital.[10]

Thus:

Permanent capital= Owned capitals + Debts at a greater term than 1 year

The trading capital represents the part from the permanent capitals that remained after financing the immobilizations, which the companies use for financing the operating assets.

Table no 1. Financial balance sheet

Asset	200.000 u.m.	200.000 u.m.	Capitals and debts
Immobilised assets	120.000 u.m.	150.000 u.m.	Permanent Capitals
(Net)			
Operating assets	80.000 u.m.	50.000 u.m.	Short term debts

Note: u.m. = monetary units

From the point of view of the calculation formula there are the following variants of determining the level of the Trading Capital:

Based on the upper part of the balance sheet:

The trading capital=Permanent Capitals - Immobilised Assets (Net)

This calculation manner underlines the part of the permanent capitals which remained after financing the immobilizations. This part is destined to finance assets having a sufficiently high liquidity degree. The existence of a trading capital positive is beneficial for the company as in this case we talk about the existence of a security margin of the company because part of the operating assets is financed from the permanent capitals.

Following the given example:

Trading capital= 150.000 u.m. – 120.000u.m.= 30.000 u.m. (plus 30.000 u.m.)

The existence of a positive trading capital is in direct equivalence with a rate of the global liquidity over unitary.

Rate of global liquidity = Operating Assets/ Short term Debts = 80.000u.m. / 50.000 u.m.= 1.6

On the lower part of the balance sheet:

Trading capital = Operating assets – Short term debts

This method underlines the finality of the trading capital, the method underlying the potential liquidity excedent when the amount is positive or the deficit of potential liquidity when the amount is negative. When the trading capital has a positive value the interpretation associated to this method of calculation is that the Operating Assets that can be transformed in liquidities allow not only the payment of the debts on short term but also the release of excedentary liquidities.

Again I must underline the connection between the supraunitary rate of global liquidity and the positive trading capital.

Taking the given example:

Trading capital = 80.000 u.m. – 50.000 u.m. = 30.000 u.m. (plus 30.000 u.m.)

Global liquidity rate = Operating Assets / Short term debts = 80.000 u.m./50.000 u.m. = 1.6

In other words we can draw the conclusion that a supraunitary rate of the global liquidity supposes the existence of a positive trading capital and this situation is a favourable situation to the companies, being a security margin that secures the company in its activity and defends it from perturbations of the cash and payment cycles.

A subunitary rate of global liquidity leads to the existence of a negative trading capital, situation that reflects an alarming state in the balance of the company because the permanent capitals are not sufficient for the financing of the immobilized assets and plus this financing is partially covered through the short term debts. Moreover, the value of the operating assets that can be transformed in cash is not sufficient for covering the short term debts.

Besides the considerations mentioned above for a good interpretation and professional reasoning it is important to analyze permanently also the necessary trading capital and the net treasury.

The necessary trading capital is represented by the money that must be rounded in an economic entity in order to ensure its functioning, financial needs generated by the execution of some repetitive operations that compose the current exploitation cycle, which must be covered at least partially out of stable resources.

If the trading capital reflects the long term balance, the necessary trading capital reflects the current balance of the company that is much more fluctuant. The necessary trading capital is influenced by the turnover, the manufacturing cycle, the production costs, the rotation duration of the stocks, the duration of the real commercial credit (the difference between the rotation of the customers and the rotation speed of the suppliers.) [13]

Following the calculation formula, this determines that the difference between the operating asset from which we deduce the cash availabilities and the short term financial investments (cyclic needs) and the short term debts from which we deduce the short term financial debts (cyclic resources).

The necessary trading capital = (Circulating assets - Cashier and banking accounts) - (Short term debts - Short term financial debts).

The positive value of the necessary trading capital usually reflects a favorable situation to the firms because in practice the most often it is generated by slowing the cash of the claims and the speeding of the payment of the debts, but when it is generated by investments reflects a normal situation.

The negative value of the necessary trading capital reflects a favorable situation because the rule implies an acceleration of the rotation speed of the claims, but also of the stocks, and a relaxation of the payments, which are negotiated with further payment terms. [19]

From the point of view of the connection with the liquidity rates, the evolution of the necessary trading capital can be followed in report with an indicator that some financial analysts calculate it eliminating from the value of the general liquidity rate the value of the acid test and placing the result obtained in the accepted limits obtained after the same logic of deduction. From my point of view it is not the most relevant because from the calculation base (short term debts) are not excluded the current financial debts. [18]

As far as the net treasury calculated as the difference between the trading capital and the necessary trading capital is concerned (or by analogy as a difference between available cash and current financial debts) it is important that it is positive because in this situation, the availabilities overpass the current banking credits. However, the positive values of the net treasury must be wisely used because if they are kept without utilization (without money rotation) does not generate profit for the firms. It is important to take into account this aspect as well. In this context there are also the banking analysis an indicator of liquidity which is called the indicator of the treasury liquidity and

