Balance Sheet - General Information on Financial Health, Liquidity and Solvency of an Economic Entity

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Abstract

In analyzing the balance sheet several indicators can be calculated with normal empirically pre-determined values so popular that can provide some information on the general state of the entity, thereby drawing of conclusions and directions for action. Purposes of calculating these indicators is to determine: the liquidity of the entity, which measures the ability to honor its obligations at maturity; the solvency of the entity, which measures its ability to repay debt in the medium and long term; the profitability of the entity that measures the entity's ability to gain, to produce profit, to be cost effective.

Some elements of financial soundness, solvency and liquidity are calculated as it follows.

Key words: financial soundness, liquidity, solvency, balance sheet
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1. Introduction

The balance sheet is an integral part of the financial statements, and is regarded as a financial statement showing the company through the difference between assets and liabilities, and felt that the balance sheet provides information on the nature and the amounts invested in the entity's economic resources, obligations towards its creditors, and the owners of these resources (Feleagă *et al*, 2007, p.63).

On the other hand, the balance sheet is regarded as an icon of the financial position, reflecting the entity's ability to adapt to environmental changes by using economic resources controlled, funding structure, and using economic -financial indicators of liquidity and chargeability (Paraschivescu *et al*, 2008, p.708).

The balance sheet is considered to be "the summary accounting document, which presents all the assets, liabilities and equity of the entity at the end of the period", being considered "the instrument by which the application of the principle of double accounting representation of property items" (Matiş *et al*, 2010, p.712).

According to other authors, the balance sheet "reinforces and puts into words the information on functional forms of investing the funds in the activity of a holder of heritage, as well as how their training within the framework of relations with the economic and social environment, [...] and highlights the financial result achieved as a result of breeding and consumption of the invested funds" (Georgescu, 1999, p.17).

In addition, the balance sheet is considered an official document for the management of the entity, and being a financial document, it does not give but very little information about the technical side of the business entity, however, reflecting the financial strength, the strategy and the tactics of an economic entity (Spătaru, 2004, p.419).

2. General information on the financial health, liquidity and solvency

a) The rate of the financial soundness analysis (R_{sf})

Information required: equity capital (K_p); turn-over (C_a).
Calculation formula:

$$R_{sf} = \frac{K_p}{C_a} \; ; \qquad\qquad R_{sf}\% = \frac{K_p}{C_a}100$$

Table no. 1 The rate of financial soundness calculation

Nr. crt.	Indicator	Symbol	Position in the balance sheet	Financial exercise		Amendments	
				2014	2015	Absolute (Δ)	Relative (I)
1.	Equity capital	K_p	F10, 46	-62.068	103.841	165.909	-
2.	Turn-over	C_a	F20, 01	384.075	2.024.349	1.640.274	5,271
3.	Financial soundness rate	K_p/C_a	-	-	0,0513	-	-

Source (done by the authors)

b) The rate of the capital management analysis (R_{gc})

Information required: financial expenses (C_f); total sales (V_t) or the turn-over (C_a)
Calculation formula:

$$R_{gc} = \frac{C_f}{C_a} \; ; \qquad\qquad R_{gc}\% = \frac{C_f}{C_a}100$$

Table no. 2 The rate of capital management calculation

Nr. crt.	Indicator	Symbol	Position in the balance sheet	Financial exercise		Amendments	
				2014	2015	Absolute (Δ)	Relative (I)
1.	Financial expenses	C_f	F30, 279	1.239	5.226	3.987	4,218
2.	Turn-over	C_a	F20, 01	384.075	2.024.349	1.640.274	5,271
3.	Rate of capital management	R_{ge}	-	0,00323	0,00258	-0,0006	-

Source (done by the authors)

c) The ratio link between the liquidity necessary and sales analysis (R_{llv})

Information required: fixed assets (M_f); total sales (C_a).
Calculation formula:

$$R_{llv} = \frac{M_f}{C_a} \; ; \qquad\qquad R_{llv}\% = \frac{M_f}{C_a}100$$

Table no. 3 The ratio link between the liquidity necessary and sales calculation

Nr. crt.	Indicator	Symbol	Position in the balance sheet	Financial exercise		Amendments	
				2014	2015	Absolute (Δ)	Relative (I)
1.	Fixed assets	M_f	F10, 02	80.159	95.690	15.531	1,194

| 2. | Turn-over | C_a | F20, 01 | 384.075 | 2.024.349 | 1.640.274 | 5,271 |
| 3. | Rate link | R_{llv} | - | 0,2087 | 0,0473 | -0,1614 | -4,415 |

d) The ratio of the asset yield analysis (R_{va})

Information required: the turnover (C_a); total assets (A_d).

The calculation formula is as follows:

$$R_{ra} = \frac{C_a}{A_t} \; ; \qquad R_{ra}\% = \frac{C_a}{A_t} 100$$

Table no. 4 The ratio of return on assets

| N r. cr t. | Indicator | Symbol | Position in the balance sheet | Financial exercise | | Amendments | |
				2014	2015	Absolute (Δ)	Relative (I)
1.	Total assets	A_t	F10, 15	19.288	155.114	135.826	8,042
2.	The turnover	C_a	F20, 01	384.075	2.024.349	1.640.274	5,271
3.	The ratio of return on assets	R_{ra}	-	19,913	13,051	-6,862	0,655

e) Analysis of stock rotation speed (V_{rs})

Information required: sales volume (C_a); the average stock of finished products (S_t).

The calculation formula:

$$V_{rs} = \frac{C_a}{S_t} \; ; \qquad V_{rs} = \frac{C_a}{S_t} 100$$

Table no. 5 Stock rotation speed

| N r. cr t. | Indicator | Symbol | Position in the balance sheet | Financial exercise | | Amendments | |
				2014	2015	Absolute (Δ)	Relative (I)
1.	Stock	S_t	F10, 05	32.154	73.717	41.563	2,293
2.	The turnover	C_a	F20, 01	384.075	2.024.349	1.640.274	5,271
3.	The speed of rotation of stocks	V_{rs}	-	11,945	27,461	15,516	2,299

f) Payment capacity analysis (C_{pl})

Information required: available cash (cash and bank accounts) (D_{isp}); liabilities (the amounts to be paid within a period of up to one year) (D_{ts})

The calculation formula:

$$C_{pl} = D_{isp} - D_{ts} \; ; \qquad I_{C_{pl}} = \frac{D_{isp}}{D_{ts}}$$

Table no. 6 The entity's payment capacity

Nr. crt.	Indicator	Symbol	Position in the balance sheet	Financial exercise		Amendments	
				2014	2015	Absolute (Δ)	Relative (I)
1.	Available cash	D_{isp}	F10, 08	16.516	313.609	297.093	18,988
2.	Short-term debts	D_{ts}	F10, 13	114.148	343.785	229.637	3,012
3.	Payment capacity	C_{pl}	-	-97.632	-30.176	67.456	0,309

Source (done by the authors)

g) Analysis of economic liquidity ratio (R_{lp})

Information required: current assets (A_c); short-term debts (D_{ts})
The calculation formula:

$$R_{pl} = \frac{A_c}{D_{ts}} ; \qquad\qquad R_{pl}\% = \frac{A_c}{D_{ts}} 100$$

Table no. 7 Patrimonial liquidity ratio

Nr. crt.	Indicator	Symbol	Position in the balance sheet	Financial exercise		Amendments	
				2014	2015	Absolute (Δ)	Relative (I)
1.	Current assets	A_c	F10, 09	53.277	401.664	348.387	7,539
2.	Short-term debts	D_{ts}	F10, 13	114.148	343.785	229.637	3,012
3.	Patrimonial liquidity rate	R_{lp}	-	0,467	1,168	0,702	2,503

Source (done by the authors)

h) The acid liquidity ratio analysis (R_{la})

Information required: current assets (A_c); stock (S_t); short-term debts (D_{ts})
The calculation formula:

$$R_{la} = \frac{A_c - S_t}{D_{ts}} ; \qquad\qquad R_{la}\% = \frac{A_c - S_t}{D_{ts}} 100$$

Table no. 8 Acid liquidity ratio

Nr. crt.	Indicator	Symbol	Position in the balance sheet	Financial exercise		Amendments	
				2014	2015	Absolute (Δ)	Relative (I)
1.	Current assets	A_c	F10, 09	53.277	401.664	348.387	7,539
2.	Stock	S_t	F10, 05	32.154	73.717	41.563	2,293
3.	Short-term debts	D_{ts}	F10, 13	114.148	343.785	229.637	3,012
4.	Acid liquidity ratio	R_{la}	-	0,1850	0,9539	0,7689	5,1550

Source (done by the authors)

i) Analysis of the entity's solvency ratio (R_s)

Information required: total capital (K_t); total debts (D).
$D = D_{ts} + D_{tl}$ (it sums up the debts in the short term and the long term).

$$R_s = \frac{K_t}{D} ; \qquad\qquad R_s\% = \frac{K_t}{D} 100$$

The calculation formula:

Table no. 9 The entity's solvency ratio

Nr. crt.	Indicator	Symbol	Position in the balance sheet	Financial exercise		Amendments	
				2014	2015	Absolute (Δ)	Relative (I)
1.	Short-term debts	D_{ts}	F10, 13	114.148	343.786	229.638	3,012
2.	Long-term debts	D_{tl}	F10, 16	81.356	51.273	-30.083	0,630
3.	Total debts	D	-	195.504	395.059	199.555	2,021
4.	Total capital	K_t	F10, 49	-62.068	103.841	165.909	-1,673
5.	Solvency rate	R_s	-	-0,317	0,263	0,580	-0,828

Source (done by the authors)

j) General liquidity ratio analysis (R_{lg})

Information required: bank + cash+ portfolio (B); total assets (A_t).
The calculation formula:

$$R_{lg} = \frac{B}{A_t} \; ; \qquad\qquad R_{lg}\% = \frac{B}{A_t}100$$

Table no. 10 General liquidity ratio

Nr. crt.	Indicator	Symbol	Position in the balance sheet	Financial exercise		Amendments	
				2014	2015	Absolute (Δ)	Relative (I)
1.	Bank + Cash	B	F10, 08	16.516	313.609	297.093	18,988
2.	Total assets	A_t		133.436	498.899	365.463	3,739
3.	General liquidity ratio	R_{lp}	-	0,1238	0,6286	0,5048	5,0786

Source (done by the authors)

3. Conclusions

As a result of calculations, you can draw the following conclusions regarding the analysis of the economic entity:
- *rate of the financial soundness analysis* : it follows an entity's financial soundness rate of 5.13% at the end of the financial year 2015 This rate is more than 10 times lower than the minimum normal limit (norm empirically), 55%. The financial soundness of the entity is in danger. We should note that the empirical values considered normal for this indicator are between 55% and 66%. However, there are exceptional circumstances, in the case of entities providing services or those that have as their main activity is selling fuels;
- *rate of the capital management analysis* : the normal value for this ratio is between 1.2% and 2.5%. In the case of our entity, the ratio follows a negative trajectory, from 0.32% to 0.25%, being far below the normal minimum and showing the existence of unused capital;
- *ratio link between the liquidity necessary and sales analysis*: the normal value of the rate is between 10% and 25%. In the case of the entity examined, the rate has a normal value by the end of 2014 (20,87%), but drops to 4.73% at the end of 2015. However, this value can be considered normal for the entities with their main business in trade-service! It is essential that it should no longer fall, the entity needing fixed assets;
- *ratio of the asset yield analysis*: the normal value of the asset yield rate is greater than 1.4. The entity under review has much higher values, but there is a tendency of normalization, the pointer decreased from 19.913 to 13.051 during the financial year 2015. It should be noted that the indicator was calculated on the basis of assets from which they extract the debts to be paid over a period of up to one year and that, at the end of the year 2015 were of 343,075 lei. If they are taken into account, the value of the asset yield rate is:

$$R_{ra} = \frac{2.024.349}{155.114 + 349.075} = 4,015$$
In conclusion, one can appreciate that the asset yield rate is very good to the economic entity;

- *analysis of stock rotation speed*: a value of the speed rotation equal to 6 is considered good. The values of the speed rotation of stocks to the entity under review are much higher and growing, which is a beneficial situation for the entity;

- *payment capacity analysis*: any positive value of the payment capacity of the entity is considered to be beneficial. So at the end of the previous financial year and at the end of the current year, the entity was in default, but in a consistent improvement in the situation, inability to pay (so called where the payment capacity is negative) by the end of 2015, representing one third (30,9%) from that at the end of 2014;

- *analysis of economic liquidity ratio* If the economic liquidity ratio is at least a unitary entity $(R_{lp} = 1,00)$, then the situation is considered good. In the case of the entity under review, at the end of 2014, the economic liquidity ratio was less than half of the minimum permissible, but the situation has improved, above the 1.00 at the end of 2015. The situation of the entity is good, she is able to pay its debts without having to contract loans for the purpose;

- *acid liquidity rateio analysis*: in order for the situation to be favorable to the entity, it is indicated that $R_{la} \geq 1$. In the case of the entity under review, the rate is closer to the unit at the end of year 2015, but not reaching it. However, we can appreciate that the situation is favorable for the entity because the a stocks held are not difficult to sell;

- *analysis of the entity's solvency ratio*: normally: if $R_s > 60\%$, the entity has a good solvency;; if R_s is between 30% and 60%, the ratio between debt and equity is dangerous; if $R_s < 30\%$ the entity is deemed insolvent. In this case, when $R_s = 26,3\%$, the economic entity under review is in default, at least temporarily. It is necessary to increase the capital of the entity and focus on the short-term debt;

- *general liquidity ratio analysis*: It is an indicator of the overall "health" of an entity, expressing the possibility of financing its activity. Total assets include debt which must be paid in one year. Normally, if this indicator has values above 30%, then it indicates a poor use of capital; while a near 1% too high indicates a strong need for liquidity. Empirical normal values, benefits are between 5 and 25%. In the situation of the entity under review at the end of 2014 it had a rate of 1.23% of overall liquidity, which shows that it needs quick cash at the end of 2015, showing that there are serious unused capital reserves.

4. References

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