

*Marta Sukiennik\**

## THE ANALYSIS OF MINING COMPANY LIQUIDITY INDICATORS\*\*

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### 1. Liquidity

The demonstration of liquidity by an enterprise signifies a situation where a company is able permanently and without any obstacles meet all its short-term liabilities on current bases: bills, current purchases, employee remuneration. It is estimated that approximately 80% of Polish enterprises face problems with maintaining liquidity [1].

The loss of liquidity can cause substantial problems in efficient and effective operation of an enterprise. Cash deficits in an operating entity may result in the need to dispose of a part of production on profit-free bases or even at a loss.

The literature on the subject fails to provide an unambiguous definition of liquidity. From among those most frequent definitions, the following deserve to be highlighted (compare: [5, 6]):

- Liquidity, understood as the ability to timely meet current obligations, long-term liquidity, sometimes identified with enterprise's solvency meaning the ability to cover the total debt with the assets held,
- Long-term liquidity, called the balance of income, occurring in the situation where an enterprise has the ability to make purchases and to meet financial obligations.

In turn, in another approach, liquidity is defined as an enterprise's ability to transform the assets into cash in the shortest possible time and without the loss of value [3].

However, the most general definition of liquidity, taking into consideration all the conditions resultant from the previous definitions, is the one formulated by D. Wędzki and

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\* AGH University of Science and Technology, Krakow

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saying that liquidity is the enterprise's ability to achieve cash flows enabling the enterprise to meet due and payable liabilities and to cover unexpected expenditures [7].

Liquidity can be perceived in two principal approaches:

- A static one,
- And a dynamic one.

In the case of the static take on liquidity analysis, the occurring state of current assets with a liquidation period of up to one year is adopted for the basis. However, no further proceeds and outlays which shall emerge within a short period of time in connection with the enterprise's conducted operations are taken into account. Neither is the time distribution of current assets liquidation accounted for while the maturity of obligations is able to generate proceeds and outlays within a given time period. It takes into account not only the financial effects resulting from a defined status of assets and obligations, but also those which are only to occur in relation to the economic and financial processes being realised.

## 2. Static indicators of liquidity assessment

The ratio analysis, which comprises the liquidity results analysis, is based on the static analysis. Such an analysis should be performed in particular in those enterprises whose profile of operation is defined as seasonal or where there are substantial fluctuations in the status of specific current assets components and obligations of such an enterprise. The most frequently used indicators in the scope of the static liquidity analysis include [3]:

- 1) Current ratio,
- 2) Acid-test ratio, so-called "quick ratio",
- 3) Cash ratio.

Current ratio is defined as:

$$WPB = \text{Current assets} / \text{Short-term obligations} \quad (1)$$

It informs on the enterprise's ability to timely meet its obligations on the basis of its current assets. In an enterprise, the increase in value of this ratio in subsequent periods testifies to the improvement of liquidity. The literature also provides an ideal value for this ratio specified in the 1.2–2.0 interval. This means that the enterprise functions optimally in the current assets scope when its current assets are 1.2 to 2 times higher than its short-term obligations [4]. The value below 1.2 signifies the lack of liquidity in the enterprise whereas the ratio value exceeding 3.0 testifies to the fact that the enterprise is in the state of liquidity surplus, i.e. insufficient utilisation of the current assets. This may be caused by excessive warehouse inventories of ready products, unpaid liabilities or, for example, possession of short-term securities which cannot be sold.

Determination of rigid frames for the ratio value is oftentimes subject to criticism from economists. Davis negatively refers to the upper limit of the optimum ratio value interval provided as the upper limit of financial security of an enterprise (2,0). In his opinion, companies in specific sectors have varied levels of current assets and the demand for these assets is variable due to the specificity of the sector in which the company operates [2]. Therefore, it is possible, and even recommended in case of enterprises operating under specific conditions to compare the achieved ratio values with the levels recorded for this ratio in previous years.

Acid-test ratio, so-called quick ratio is calculated according to the following formula:

$$WWP = \text{Current assets} - \text{Reserves} / \text{Short-term liabilities} \quad (2)$$

The acid-test ratio also has its standard intervals. For this reason, it is assumed that if the value of this measure in the enterprise reaches below 1, then one speaks of difficulties in handling current payments. If it is higher than 1, then liquidity surplus occurs. The value in the area of 1 is an optimum interval.

Cash ratio is defined as:

$$WG = \text{Short-term investments} / \text{Short-term liabilities} \quad (3)$$

This measure characterises the enterprise's capacity to immediately meet the obligations. It expresses which part of the obligations can be paid off immediately from the cash resources held. Therefore, the lower the ratio value, the better the ability to meet the obligations and vice versa.

### 3. The analysis of the results achieved by the mining company

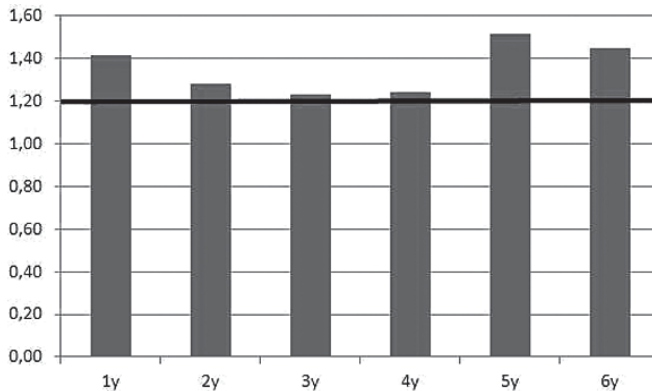
The enterprise under analysis is an independent mining company in continuous operation for many years. Its offer includes sales of high quality aggregate for road, bridge, and railway construction. Table 1 presents the comparison of liquidity indicators (current ratio — *wpb*, Acid-test ratio — *wwp*, cash ratio — *wg*) over 6 subsequent years.

TABLE 1  
Liquidity ratios

Item	year 1	year 2	year 3	year 4	year 5	year 6
<i>wpb</i>	1.4127	1.2835	1.2301	1.2415	1.5153	1.4467
<i>wwp</i>	1.2427	1.2490	1.1490	1.1339	1.2413	1.2302
<i>wg</i>	0.5428	0.5002	0.5088	0.4348	0.4252	0.6016

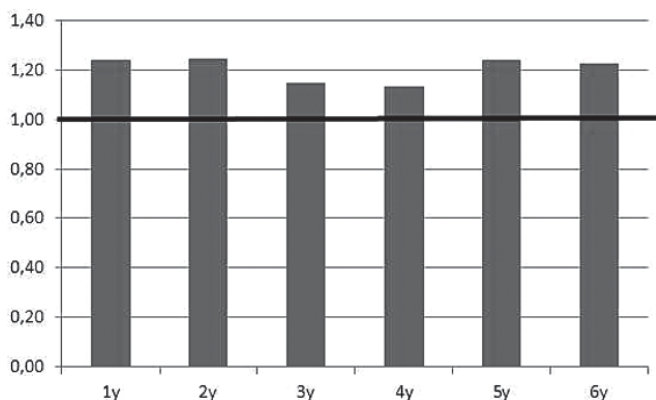
The relations of levels of the individual ratios achieved in subsequent years are presented in the diagrams below.

Figure 1 presents the current ratio values over 6 subsequent years. The marked horizontal line at the level of 1.2 signifies the lower limit of the optimum interval within which said ratio should occur in enterprises. In each of the years subject to analysis, the mining company attained such a relation of the current assets in relation to the short-term liabilities it has that the current liquidity was on the optimum level during each of the periods subject to the analysis. However, it can be noted that in years 3 and 4 the value of the ratio is lower in comparison to other years. The reason for such a situation is a significant decrease in the value of current assets of the mining enterprise, in particular the drop of summary short-term receivables. With unaltered values of short-term-liabilities and the decreasing level of short-term receivables, the general level of the ratio underwent a slight correction downwards. In the next year, the improvement of the relation was recorded, mainly due to the increase of the current assets level, in particular short-term receivables and cash as well as other cash assets.



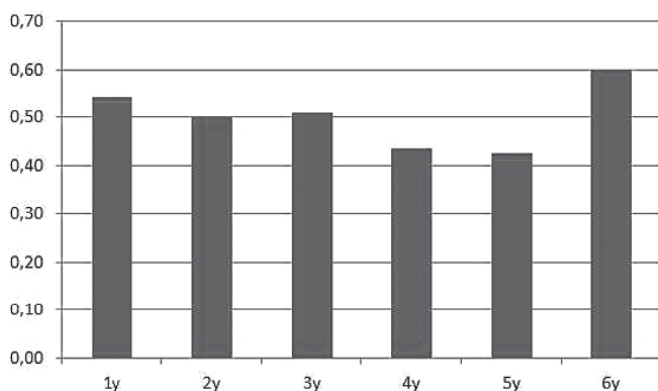
**Fig. 1.** Current ratio over six subsequent years

The acid-test ratio should record its optimum value in the vicinity of 1 (marked on Fig. 2). Too high a value causes liquidity surplus, when it is too low, it can suggest difficulties in meeting the obligations. In the mining company under analysis, the ratio values over all the years exceed the optimum value. The average value over six years is 1.2. Such a value, according to the literature of the subject suggest liquidity surplus, however, in the case of the mining company operating under specific conditions typical for the extraction industry, the subject value does not seem to be too high. Similarly as in the case of the current ratio, years 3 and 4 are the years with the lowest ratio level. The reason for this is the increase of the general value of reserves with a relatively low level of the current assets total. In years 5 and 6, the situation improves to the company's benefit, mainly due to the increase in the current assets without a significant change in the reserve level and with the simultaneous decrease of the short-term liabilities level.



**Fig. 2.** Acid-test ratio

The cash ratio is the indicators which speak of the company's ability to immediately meet its obligations. Literature does not provide the optimum level of this ratio, however, it is suggested that it should be the highest possible.



**Fig. 3.** Cash ratio

In connection to the fact that in the company under analysis, the average value was 0,5, it is possible to assume that the company had a high capacity to immediately meet its obligations. It follows mainly from the relatively high level of short-term investments.

#### **4. Recapitulation**

In the mining company under analysis, the financial standing assessed from the perspective of liquidity was good. The cash ratio reaches a high level in comparison with other companies

operating in this sector. The achieved average level of 0.5 is not often recorded in this branch of industry which points to good cash ratio of the company under analysis. The remaining indicators, i.e. the current ratio and the acid-test ratio fit in within the values quoted as optimal in literature. It is possible to conclude that the company under analysis maintains appropriate relations between these asset components and capitals which shape the enterprise's liquidity.

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