

AN ASSESSMENT OF FINANCIAL LIQUIDITY OF POLISH PRESSURE ALUMINUM CASTING HOUSES

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Abstract

For each company a loss of capacity to settle current liabilities means an emergence of a number of difficulties that may cause bankruptcy. In commercial companies, where current assets are a large share in assets, one can try to regain financial liquidity by gradually liquidating individual current assets. The manufacturing companies deal with payment bottlenecks in a more difficult way. In such companies fixed assets account for a significant share in the structure of assets. Fixed assets are the ones that are difficult to liquidate. In a situation when payment bottlenecks appear, manufacturing companies have a problem with regaining financial liquidity. If such transactions take place when a company has to sell fixed assets quickly, it usually suffers from a large loss in sales. In general, fixed assets that the company gets rid of belong to specific instruments that may not be in demand at certain moment. Therefore, the price of such instruments must be attractive for a buyer. This is the last resort to save a company. The company regains its financial liquidity, but the sales at a loss reduces financial results. To prevent this, it is necessary to analyze systematically the basic financial liquidity ratios assessing the risk of inability to settle current liabilities. In the article advantages and disadvantages of the applied financial liquidity management strategies were presented. The aim of the paper is to determine an optimal liquidity management strategy for pressure foundries. The presented analysis and the model of the optimal strategy may be used in the selection of liquidity strategies in manufacturing companies from various industries in the country or in the world. The research period covered the years 2014-2016.

Keywords: Financial liquidity, aluminum pressure castings

1. INTRODUCTION

In manufacturing companies, financial liquidity management is not an easy process. In general, in this type of companies fixed assets prevail current assets. Their participation in the structure of property is already the first piece of information on the possibility of threats related to the loss of financial liquidity. A narrow group of suppliers of raw materials, materials or energy is an additional difficulty in the case of manufacturing companies. In case of payment gridlocks it is not easy to change the contractor. Some blockades in the supply of energy, raw materials or materials immediately result in a production stopover. The stopover in production even for a short time results in an increase in costs. Production costs are increasing, which forces managers to raise the price of products. The stopover in production reduces sales which may lead to the loss of permanent contractors. The loss of contractors, the increase in the price of products are two powerful steps aimed at lowering the competitive advantage of a company in the market. The goal of such a company functioning is a struggle to survive in the market. Therefore, it is very important not to cause the situation when there is a lack of cash for payment of current liabilities as the recovery of lost current financial liquidity is a long and often unsuccessful process. In the article on the example of 14 pressure aluminum casting houses, the analysis of financial liquidity management was carried out and the management model was presented.

2. FINANCIAL LIQUIDITY

Financial liquidity of a company is interpreted as its ability to maintain continuity in covering expenses, i.e. timely payment of current liabilities [1]. An assessment of this ability allows providing information on the financial security of a company. Creating a financial liquidity strategy in terms of income-risk results from the need to reconcile two opposing goals that are faced by the company. It is maximizing of the value for the owner and minimizing of the risk of losing financial liquidity [2]. In many countries, banks impose higher interest rates on companies threatened with bankruptcy, and commissions when applying for a loan [3]. So that these costs should be included in the costs of the strategy which was chosen by the managers. Business managers need to decide what is more important for the company: high profits or financial security resulting from the high level of financial liquidity. Liquidity management is a highly complicated process as it consists of a series of partial strategies for managing current assets and current liabilities. According to many authors, weaknesses in a company management are a cause of corporate bankruptcies, including: lack of competence and skills in the field of business management, personal characteristics, e.g. excessive optimism, insufficient motivations. [4]. Baldwin [5] confirms that management weakness was the main reason for bankruptcies of businesses in Canada. Other authors also believe that the way of business management has a big impact on the risk of losing financial liquidity [6]. In the case of small and medium-sized enterprises, a separate management model should be developed. One should not use the general model [7]. Since SMEs can submit simplified financial statements, Altman [8] suggests using non-financial information to account for missing financial information. It includes information on the type of business, size and age of a company as well as information on reporting and compliance and operational risk.

Therefore, it is necessary to create such a model, a liquidity management strategy model that will optimize the level of financial liquidity. D. Wędzki [2] treats liquidity strategies in terms of income and risk as three sub-strategies: as current assets, sources of financing of current assets and property and financial strategies.

Companies creating liquidity management strategies should base their analysis on two elements, i.e. current assets (inventories, receivables from customers and short-term investments) and current liabilities (short-term liabilities).

Strategies of current assets are generally divided into two basic ones: conservative and aggressive. However, it is important to distinguish intermediate or moderate strategies. They can be conservative-moderate and aggressive-moderate strategies. Each moderate strategy comes from the basic strategies. The level and structure of individual elements of current assets is of key importance in determining the strategy for financial liquidity.

In case of financial sources of current assets, it is also possible to make a division into classic strategies, i.e. aggressive and conservative ones. In the case of creating a model of liquidity management strategy, it is worth focusing primarily on the position of liabilities towards suppliers. They are usually the highest level in short-term liabilities. In addition, credit commitments are the second issue worth analyzing.

G. Zimon [9] divides the strategies of current assets management into conservative, aggressive and moderate ones:

- Conservative strategy - is characterized by a high level of current assets in relation to short-term liabilities. Companies that use this type of strategy have high financial liquidity and often their result should be defined as over-liquidity. Companies try to pay short-term liabilities on time so their level is low. Inventories are a high share in the structure of current assets. Receivables which are quickly collected from recipients are lower than inventories. Cash in the structure of current assets is at a low level, but in comparison to cash in an aggressive or moderate strategy, there is definitely more of them. This strategy is safe for enterprises, but it is expensive.
- Aggressive strategy - is characterized by a high level of short-term liabilities often reaching the level of current assets. Liquidity is at a low level. In case of current assets, receivables prevail inventories.

Inventories are low. Such a strategy is a big threat to the continuity of a company activity and is expensive. Receivables are of a high standard because they provide long payment terms. Risky sales may result in a lack of inflows and a loss of financial liquidity. Cash at a minimum level is in constant circulation.

- Moderate strategy is an intermediate between aggressive and conservative strategies. It is the most commonly used and due to the fact that it comes from the basic strategies, it can be divided into moderate-aggressive and moderate-conservative.

Therefore, a choice of a strategy has a decisive impact on the financial results and financial security of companies

3. FINANCIAL LIQUIDITY MEASURES

Static evaluation is determined by means of data contained in the balance sheet and applies to such measures as current liquidity, quick ratio and turnover ratios in days of the most important elements affecting liquidity management:

$$\text{Current liquidity ratio} = \frac{\text{current assets}}{\text{short_term liabilities}} \quad (1)$$

The authors [10,11] indicate that the financial liquidity should be in all companies in the range from 1.2 to 2.0 no matter the size and the branch. The numerator of this ratio has always aroused controversy as it contains all current assets included in a unit, characterized by a diversified level of liquidity, which in some way obscures its true picture. Hence, there is a need to eliminate the slowest-convertible component into cash-reserves, which is presented by the ratio also known as (2)

$$\text{Quick ratio} = \frac{\text{current assets} - \text{inventories} - \text{short_term prepayments}}{\text{short_term liabilities}} \quad (2)$$

quick ratio - inventory is subtracted because it is frequently illiquid. In liquidation sales, sellers substitute store [11]. The elimination of inventory is based on financial liquidity on receivables. It presents the extent to which highly liquid assets, which include receivables and short-term investments, are able to cover current liabilities.

The next ratios concern the effectiveness of management of the most important elements affecting the level of financial liquidity, and this is the ratio of turnover of short-term receivables, inventories and short-term liabilities.

$$\text{Receivables turnover ratio in days} = \frac{\text{short_term receivables}}{\text{sales revenues}} \cdot 365 \text{ days} \quad (3)$$

This ratio informs after what time the receivables are collected by a company. The lower the results, the shorter the lending period for the recipients. A turnover ratio of commitments in days is an important benchmark for this measure. An ideal situation is when the receivables turnover ratio in days is shorter than the liabilities rotation rate in days [12].

$$\text{Inventory turnover ratio in days} = \frac{\text{inventories}}{\text{sales revenues}} \cdot 365 \text{ days} \quad (4)$$

This ratio informs after what time a company renews its inventory, in other words how many days a company freezes its cash in inventories.

$$\text{Debt turnover ratio in days} = \frac{\text{short_term liabilities}}{\text{sales revenues}} \cdot 365 \text{ days} \quad (5)$$

This ratio informs after what time a company settles liabilities. The higher the ratio, the better it uses a foreign source of financing. However, the high result of this ratio may suggest potential new contractors that it is not worth cooperating with such a company since it regulates its liabilities after a long time.

4. AN ANALYSIS OF FINANCIAL LIQUIDITY IN SELECTED ALUMINUM CASTING HOUSES

An assessment of the level of financial liquidity was made on the basis of 14 aluminum casting houses operating in Poland. The first stage of the analysis was an assessment of the structure of assets in the surveyed companies over the period 2014-2016. Then the basic ratios of financial analysis regarding the area of financial liquidity were used. Descriptive statistics for selected ratios are presented using the following statistical methods: arithmetic mean (\bar{x}), median (Me), highest (maximum) and smallest (minimum), standard deviation (s), variation coefficient (V). **Table 1** presents a simplified structure of current assets.

Table 1 An analysis of selected elements of the structure of current assets in the examined units

| Inventories | \bar{x} | Me | s | min | max | V |
|--------------------|-----------|------|------|------|------|-------|
| 2014 year | 0.32 | 0.34 | 0.12 | 0.16 | 0.51 | 35.6% |
| 2015 year | 0.35 | 0.34 | 0.07 | 0.25 | 0.49 | 21.0% |
| 2016 year | 0.34 | 0.33 | 0.09 | 0.19 | 0.49 | 26.9% |
| Receivables | \bar{x} | Me | s | min | max | V |
| 2014 year | 0.53 | 0.53 | 0.14 | 0.30 | 0.82 | 25.4% |
| 2015 year | 0.56 | 0.58 | 0.12 | 0.35 | 0.71 | 22.0% |
| 2016 year | 0.55 | 0.55 | 0.13 | 0.35 | 0.79 | 24.4% |

Source: author's own research

The presented analysis clearly indicates a high rate of receivables over inventories. The average stock for the surveyed years reaches the limit of 35% and receivables as much as 55%. From the point of view of liquidity management, this is good information. Inventory, as the least liquid element of current assets, constitutes a small share. Next, the level of financial liquidity was assessed. The details are presented in **Table 2**.

Table 2 The ratio assessment of financial liquidity in the surveyed enterprises

| Current liquidity | \bar{x} | Me | s | min | max | V |
|--------------------------|-----------|------|------|------|------|-------|
| 2014 year | 1.93 | 1.75 | 0.85 | 0.90 | 3.30 | 43.9% |
| 2015 year | 1.81 | 1.70 | 0.61 | 0.80 | 2.70 | 33.7% |
| 2016 year | 1.82 | 1.75 | 0.96 | 0.60 | 4.00 | 52.9% |
| Quick liquidity | \bar{x} | Me | s | min | max | V |
| 2014 year | 1.33 | 1.25 | 0.63 | 0.60 | 2.40 | 47.2% |
| 2015 year | 1.17 | 1.15 | 0.47 | 0.40 | 2.00 | 40.2% |
| 2016 year | 1.15 | 1.05 | 0.66 | 0.30 | 2.50 | 57.5% |

Source: author's own research

The presented results indicate very good liquidity management strategies. The average results for current financial liquidity reach almost 1.9. In the case of quick ratio the results in each year are over 1.0, which is a very good result. The results of turnover ratios are presented in the table below.

When analyzing the data from **Table 3**, one can observe a quicker rotation of receivables from recipients over short-term liabilities. This shows that the analyzed companies are borrowers, which will have a very positive effect on the level of financial liquidity.

The Spearman's correlation coefficient showed that in the analyzed companies the current and quick financial liquidity was strongly related to the liabilities turnover ratio in days.

Table 3 Turnover ratios of selected elements affecting financial liquidity

| Receivables rotation | \bar{x} | Me | s | min | max | V |
|-----------------------------|-----------|------|------|------|-------|-------|
| 2014 year | 49.8 | 48.0 | 13.3 | 28.0 | 73.0 | 26.7% |
| 2015 year | 59.0 | 54.0 | 22.3 | 37.0 | 107.0 | 37.8% |
| 2016 year | 59.9 | 56.0 | 30.0 | 14.0 | 148.0 | 50.0% |
| Liabilities rotation | \bar{x} | Me | s | min | max | V |
| 2014 year | 60.8 | 46.5 | 36.3 | 19.0 | 139.0 | 59.7% |
| 2015 year | 69.6 | 61.5 | 29.1 | 33.0 | 124.0 | 41.8% |
| 2016 year | 83.6 | 68.5 | 47.4 | 35.0 | 168.0 | 56.7% |
| Inventory rotation | \bar{x} | Me | s | min | max | V |
| 2014 year | 36.9 | 35.0 | 18.6 | 12.0 | 74.0 | 50.4% |
| 2015 year | 41.0 | 38.5 | 15.3 | 19.0 | 78.0 | 37.3% |
| 2016 year | 43.6 | 38.0 | 16.4 | 20.0 | 80.0 | 37.7% |

Source: author's own research

5. CONCLUSION

When analyzing financial liquidity in the surveyed companies it is clear that manufacturing companies are leaning towards a conservative-moderate model. This is evidenced by the high level of the current liquidity ratio and, above all, by the high level of the quick financial liquidity ratio, which in individual years reaches the average result from 1.15 to 1.33. The share of inventories in the analyzed companies was significantly lower than receivables from recipients. In manufacturing companies in the analyzed industry, production is performed for specific orders. Therefore, no stocks are ordered with a large reserve. This is confirmed by low stock turnover ratios whose average results range from 36 days to 43 days. When assessing the management of receivables from customers and liabilities to suppliers, it can be clearly seen that the average collection period in all years is shorter than the repayment rates in days. This is very important information as the entities under analysis do not have to support additional loans to pay off current liabilities.

When summarizing the financial liquidity management model in manufacturing companies, one can talk about the moderate-conservative strategy which is characterized by low inventory based on just in time strategies. It is also important to maintain quicker receivables turnover in days compared to the turnover of liabilities in days. This way of managing of individual elements of current assets and current liabilities allows maintaining financial liquidity at a safe level. Companies with high financial liquidity in case of an emergency need to obtain cash can sell assets to improve liquidity, and they do not have to incur high costs of sudden financial difficulties [13]. The only threat to the functioning of companies when using conservative-moderate strategies is to maintain such a level of stocks that will ensure continuity of production. Therefore, managers should analyze in detail the stock whose level in the structure of current assets is not high. For this purpose, they need to enter certain systems that control the current level of inventory. However, the optimal solution for manufacturing companies is an introduction of a strategy that will increase the level of net capital and raise the current liquidity ratios. When assessing the average results of individual ratios affecting the level of financial liquidity, it is also necessary to try to speed up inventory rotation. At the moment it achieves the result at the level of commercial companies. It is low, but because manufacturing companies rarely produce items for stock, the level of inventories can be reduced. The second step to optimize the level of financial liquidity is to shorten the flow of receivables and extend the time for payment of liabilities. A change of one of these elements will have a positive impact on the level of liquidity. A more convenient solution would be to extend the time for payment of liabilities. Such a management policy would allow maintaining the rate of debt collection at the current level, which would positively affect the contacts with recipients and financial results of enterprises.

Summing up, the applied moderate-conservative strategy is safe for the analyzed companies. However, if the solutions described above were introduced, the analyzed units could optimize the process of financial liquidity management.

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