

Accounts Receivable Turnover Ratio. The Purpose of Analysis in Terms of Credit Policy Management

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Abstract

The paper aims at presenting the importance of accounts receivable turnover ratio in the credit policy management. In the first section the paper presents core aspects of credit policy management. The second section discusses the computation and purposes of analysis of the accounts receivable turnover ratio and the daily sales outstanding ratio as its variation. Particularly, it indicates that the ratio analysis is purposeful for optimal credit policy modelling and should be constantly reviewed in these terms. As the ratio analysis should be supported with a comparison to the industry level, the third section of the paper presents a brief analysis of the situation of Polish companies operating in the manufacturing industry. The fourth section contains a brief conclusion.

Key words

accounts receivable management, accounts receivable turnover ratio

JEL Classification: G00

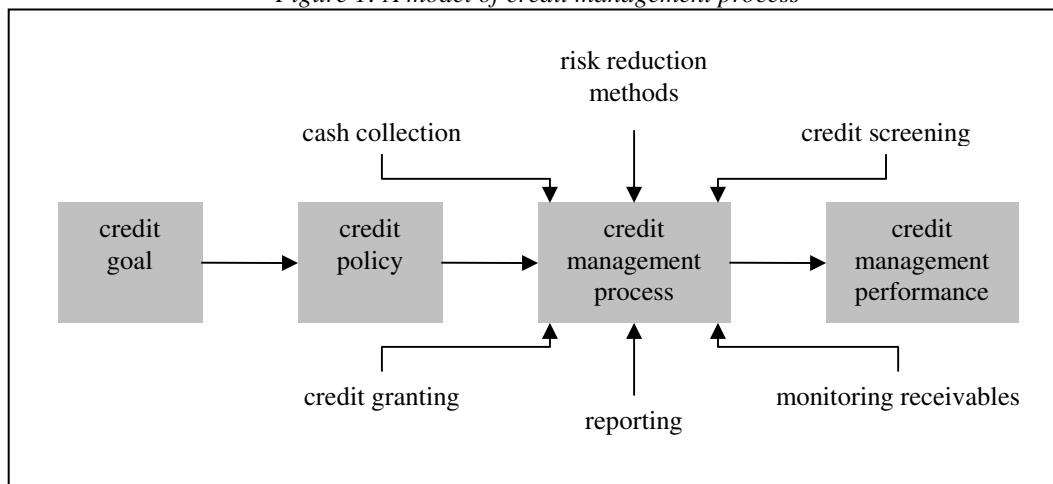
1. The Core Aspects of Credit Policy Management

The process of sales often results in offering trade credit which means that money will be paid at some future time for goods and services already sold. There are numerous reasons for offering trade credit [8, p. 467]. Sometimes the industry and competitors pressure exists. The company cannot offer credit terms that are less generous than their competitors offerings. However, the main reason why companies offer trade credit is that it helps to increase sales revenues. Therefore, the trade credit should be associated with a form of investment. As with all investments, there is a risk involved. In particular, the credit risk exists as the company offering trade credit is exposed to the possibility that the debt will not be paid on time or at all [8, p. 467].

In order to reduce the risk involved in trade credit offering, a company should apply a credit management process. The credit management process should begin with defining the credit goal and then defining the company's credit policy. The credit management process is then constituted by the decisions to grant the credit, applying risk reduction methods and credit screening, monitoring the level of receivables, collecting cash, and reporting the whole process. The mentioned elements help to assess the credit management performance, as depicted on figure 1. [8, p. 469].

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Figure 1: A model of credit management process



The credit policy management usually aims at setting the optimal credit policy and thus the optimal level of accounts receivable [2, p. 795]. In particular, the optimal credit policy is connected with the decision to grant the trade credit. In a model version, it assumes that the trade credit results in: carrying costs and opportunity costs [9, p. 787].

Carrying costs are associated with granting credit and making an investment in receivables. Such costs are positively related to the amount of trade credit extended, which means that the higher trade credit, the higher carrying costs. Carrying costs include the delay in receiving cash, the losses from bad debts and the costs of managing credit.

Opportunity costs represent the lost sales from refusing to offer the credit. These costs drop as the credit is granted. The sum of the carrying costs and the opportunity costs of a particular credit policy helps to define the optimal level of credit sales (and is sometimes referred to as the total-credit-cost curve). If the company extends more credit than the minimum, the net cash flow from additional sales will not cover the carrying costs of this investment receivable. Therefore, the decision to grant the credit involves a trade-off between the credit risk and the reward from the profit margin [8, p. 468].

The credit risk influences strongly the effectiveness of the whole credit management procedure. Therefore, the company should continuously revise if the collection of receivables is proper. Some companies even introduce the collection policy which refers to obtaining payment of past-due accounts [9, p. 789; 2, p. 801-802]. It should also be pointed that the problems with credit collection often appear as a result of wrong customers' creditworthiness analysis.

Within the credit management process, a company aware of the risk involved should constantly analyse the credit performance. Thus, it is able to adjust properly the model of optimal credit policy to the current market situation. Here an important role plays an accounts receivable turnover analysis.

2. The Information Included in Accounts Receivable Turnover Ratio

Accounts receivable turnover ratio (ATR) is one of asset management ratios, often referred to as asset utilisation or asset efficiency ratios [1, p. 56]. The accounts receivable turnover ratio is usually computed by dividing net credit sales by average accounts receivable outstanding:

$$ATR = \frac{S}{AR} \quad (1)$$

where:

ATR – accounts receivable turnover ratio,

S – net credit sales,

AR – accounts receivable outstanding,

In this formula, an accounts receivable turnover ratio informs how many times a company's accounts receivable are generated and collected during the year. In practice, while computing accounts receivable turnover ratio, a number of issues should be considered. Firstly, the assets can be either the beginning of the year values, the year-end values or average of the beginning and ending balance in a year. Secondly, the ratio should take credit sales into account, however it is usually difficult to obtain data on credit sales and therefore the value of total sales can be used instead. [7, p. 5-29; 1, p. 57].

In general, higher receivables turnover ratios imply that a company is managing its accounts receivable efficiently. In other words, accounts receivable turnover ratio allows company to examine how productively the receivables are being used. However, the analysis of receivables turnover ratio in terms of credit policy management is two-tier in nature. First of all, the ratio informs about the efficiency of credit policy management. As the ratio computes how many times a company's accounts receivable are generated and collected during the year, the higher the ratio, the more efficient the receivables management. If the level of receivables resulting from credit policy is high and the ratio is also high, then it can be assumed that the company manages to collect receivables effectively. A low or declining accounts receivable turnover ratio may indicate the company is either becoming lax in its efforts to collect receivables or is not writing off receivables that are unlikely to be ultimately collected.

On the other hand, the level of accounts receivable ratio indicates how strict the company's credit policy is. If the ratio is high, the company's credit policy may be too restrictive. In such circumstances, management should consider whether a more lenient policy should lead to enhanced sales. Consequently, it may decide to lengthen the credit period, relaxing credit standards or offering cash discounts. [2, p. 808] Of course, those actions should be taken with regard to the total-credit-policy curve.

A variant of the accounts receivable turnover ratio is a daily sales outstanding (DSO) ratio, often referred to as a receivables conversion period or an average collection period (ACP). The DSO is calculated as follows:

$$DSO = \frac{AR}{ADS} \quad (2)$$

where:

DSO – daily sales outstanding,

AR – accounts receivable outstanding,

ADS – average daily sales.

The daily sales outstanding ratio indicates how many days a company takes to convert accounts receivable into cash. Thus, it represents an accounts receivable turnover in days (as opposed to the accounts receivable turnover ratio in times). The computation of DSO is particularly purposeful in working capital management. Here, the longer the DSO, the higher working capital requirements. [3, p. 683; 7, p. 5-1]. However, the DSO is also useful in credit policy management.

If the DSO starts to lengthen, it is a signal for the company to investigate its credit policy. Particularly, if the DSO exceeds a company's credit terms, this may indicate that a company is

ineffective in collecting its credit sales or is granting credit to marginal customers. However, a deterioration of the DSO does not necessarily indicate that the credit policy has weakened – the company may simply grow rapidly and thus the DSO will decline [1, p. 57].

The DSO is also a useful ratio in opportunity costs computation. If the credit policy change will result in longer DSO, the company will have to wait longer to receive profits on sales. The company will incur an opportunity costs due to not having the cash from the profits available for investments, according to following formula [2, p. 808]:

$$OCR = \frac{Sp}{365} \times \Delta DSO \times (1 - v) \times CCR \quad (3)$$

where:

OCR – opportunity costs of receivables

Sp – previous level of sales

ΔDSO – change in DSO

v – variable cost ratio

CCR – cost of carrying receivables

The company should constantly monitor the DSO to detect trends in its change. Also, it is recommended to compare the DSO with an industry average [2, p. 796]. The company should be able to compare its collection experience with other companies in the industry and assess the effectiveness of the credit management process.

3. Analysis of Receivables Turnover Ratio in Polish Companies

As mentioned above, while establishing and reviewing credit policy, the company should revise the level of accounts receivable turnover ratio in the industry. Therefore, the purpose of the following part of the paper is to present a brief analysis of the ATR and DSO in Polish companies operating in the manufacturing industry.

The study is based on the data collected by the Polish Central Statistical Office. Particularly, the data were collected with the use of annual enterprise's reports and two special statistical reports, including financial report (called F-02) and report on the state and flow of the fixed assets (called F-03). The Central Statistical Office's survey covered companies with 10 and more persons employed. Among them were both the companies keeping the accounting ledgers or the revenue and expense ledgers [4; 5; 6].

For the ATR and DSO computation the data for 2006, 2007 and 2008 were taken into account. However, some general data concerning the number of examined companies, the level of sales revenues and accounts receivable are also presented in order to background the study. As the study aims at a brief exemplary analysis, it presents only a part of obtainable data on purposefully selected aggregation levels. In particular, the data and computed ratios are presented for all of the surveyed companies, then for the companies operating in the manufacturing industry in total and for three exemplary selected sectors of the manufacturing industry.

Table 1 presents the number of companies examined in each year. It can be assumed that the number of companies operating in manufacturing industry remained stable in 2006-2008 as only rather slight changes occurred during this period.

Table 2 presents the revenues from the sale of products, goods and services in general and per one of the analysed group of companies. In the manufacturing industry, the level of revenues from sales in general and per one analysed company increased in 2007 as compared to 2006 and remained stable in 2008 as compared to 2007. In the manufacturing industry sales revenues per one company are higher than for companies in total. The level of sales revenues

is particularly high per one company operating in the sector of motor vehicles and other transport equipment.

Similar conclusions can be drawn from the analysis of receivables in analysed companies, as presented in table 3. While comparing 2007 to 2006 the increase can be observed, but within 2008 to 2007 the level of receivables remained stable or declined slightly. Here again, the highest level of receivables per one company is observed in the sector of motor vehicles and other transport equipment.

Specification	Number of surveyed companies		
	2006	2007	2008
companies in total	47 048	48 165	53 148
manufacturing industry in total	15 103	15 354	15 785
of which:			
food products and beverages	2 907	2 873	2 818
machinery and equipment	2 101	2 166	2 244
motor vehicles and other transport equipment	622	650	682

Table 1: The number of surveyed companies

Specification	Revenues from the sale of products, goods and materials (in mln zl)					
	in general			per one company		
	2006	2007	2008	2006	2007	2008
companies in total	1 800 524,5	2 069 741,4	2 275 283,1	38,27	42,97	42,81
manufacturing industry in total	688 940,3	794 188,8	830 671,7	45,62	51,73	52,62
of which:						
food products and beverages	131 656,5	151 169,5	155 043,4	45,29	52,62	55,02
machinery and equipment	85 398,4	101 751,7	109 369,6	40,65	46,98	48,74
motor vehicles and other transport equipment	85 824,3	97 444,1	102 537,2	137,98	149,91	150,35

Table 2: The Revenues from sale of products, goods and materials in surveyed companies

Specification	Receivables (in mln zl)					
	in general			per one company		
	2006	2007	2008	2006	2007	2008
companies in total	233 385,9	265 028,8	286 259,5	4,96	5,50	5,39
manufacturing industry in total	113 803,6	107 916,1	112 042,8	7,54	7,03	7,10
of which:						
food products and beverages	15632,4	17796,8	18579,8	5,38	6,19	6,59
machinery and equipment	17130,6	18927,9	21617,9	8,15	8,74	9,63
motor vehicles and other transport equipment	11038,9	13100,6	12976,5	17,75	20,15	19,03

Table 3: The receivables in surveyed companies

The above presented data were used to calculate the level of accounts receivable turnover ratio (ATR) and the daily sales outstanding (DSO), as presented in table 4. In case of companies in total, the ATR grow slightly during the analysed period. It can be a signal that

the surveyed companies managed to reach a slight improvement in managing receivables. The declining DSO confirms such statement.

The similar trend is observed in companies operating in manufacturing sector. However, here the level of the ATR is lower and the DSO is longer as compared to companies in general. It may indicate that companies operating in manufacturing sector achieve a little bit lower degree of efficiency.

Specification	ATR			DSO		
	2006	2007	2008	2006	2007	2008
companies in total	7,715	7,809	7,948	47	47	46
manufacturing industry in total	7,071	7,359	7,414	52	50	49
of which:						
food products and beverages	8,422	8,494	8,345	43	43	44
machinery and equipment	4,985	5,376	5,059	73	68	72
motor vehicles and other transport equipment	7,775	7,438	7,902	47	49	46

Table 4: The average receivables turnover ratio and the daily sales outstanding in surveyed companies

Flowingly, the lowest efficiency of receivables management is achieved by the companies operating in machinery and equipment sector. The ATR is the lowest as compared to other sectors, and the DSO of 72 days in 2008 is the highest among observed within the analysed period. On the contrary, in the sector of foods products and beverages the level of ATR and DSO indicate the most efficient credit management performance. However, in the sector of motor vehicles and other transport equipment, where the highest level of sales revenues and receivables per one company is observed, the level of the ATR and the DSO is comparable to the level achieved by companies in total.

One should remember that the analysis of the ATR and the DSO based on the general sector data will not lead to the extended conclusions. However, companies operating in machinery and equipment sector should closely revise their credit management policy as the DSO is the longest and fluctuated within the analysed period.

4. Conclusions

As mentioned above, the analysis of ATR and DSO based on the average industry data helps to create a framework for reconsideration of credit policy of a particular company. The above presented data show that a company should conduct such analysis not in general, but with regard to the closest competitors' environment. To be precise, a company operating in the machinery and equipment sector can make a serious mistake in credit policy optimisation if it takes into consideration the data for the manufacturing industry in general. As the analysis shown, in this particular sector the levels of ATR and DSO are remote from the manufacturing industry average. On the other hand, there are sectors in which the credit management performance is better than for the manufacturing industry average (e.g. foods products and beverage).

Perhaps the most recommended strategy is to compare the level of ATR and the DSO not only to the industry average and the sector average, but for the levels achieved by one or two closest company's competitors. If such competitors are large companies, particularly listed on the stock exchange, the company will find no difficulties in obtaining required data.

The general conclusion is, that the proper analysis of the ATR and the DSO in terms of credit policy management is time and surely also an effort consuming performance. However, it is beyond doubt, that the ATR and the DSO play an important role in optimising the credit

policy management. The changes of these ratios indicate that the credit policy is improper or ineffective. Therefore, the company observing the ATR and the DSO fluctuations can promptly adjust the credit policy to the current market situation.

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