Research on the Efficiency of Working Capital Management in Retail Industry

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Abstract

Working capital is the most liquid capital, and it is one of the key contents of Yicheng's financial management. In view of the special point of the retail industry, this paper selects 12 indicators that may affect the efficiency of working capital management from five aspects: working capital policy, investment ability, operational ability and financing ability. An evaluation indicator of working capital management efficiency and recommendations for the efficiency of working capital management in the retail industry.

Keywords

Retail industry ,Working capital, Working capital management efficiency.

1. Introduction

Academic research at home and abroad has shown that there are industry differences in working capital management. Different industries have different operating characteristics, and there will be differences in working capital investment projects, amounts and financing methods. On July 3, 2017, the "China Retail Industry Development Report (2016/2017)" released by the Ministry of Commerce stated that with the continuous deepening of the national policy of decentralization, integration, and optimization of service reform policies, China's retail business units in 2016 The number continued to grow at a small rate, and the number of corporate companies grew rapidly. The report also pointed out that retailers and other labor costs have risen faster, but their profitability has remained basically stable, indicating that competition within the retail industry has become increasingly fierce. The retail industry plays an important role in China's national economy. The development of this industry has a very important impact on China's national life and economic development.

This paper chooses the retail industry as the research object, because its liquid assets account for a large proportion of the total assets of the enterprise, and also has high requirements for the management of liquid assets, which helps us to study the status of working capital management and is easier to find. problem. Of course, the industry's good development opportunities in the economic background of rising income levels have also enhanced the need for research. By analyzing the current situation of working capital management in the retail industry, this paper finds and summarizes some indicators related to the efficiency of working capital management. Finally, through the factor analysis method, the evaluation system of the working capital management efficiency of the retail industry is obtained, which helps other scholars who want to study the efficiency of working capital management.

2. Literature References

Most of the early scholars used the turnover rate or turnover period of a single working capital project to measure the efficiency of working capital management. Hager (1976) proposed the concept of a cash conversion cycle. Richard and Laugh Lin (1980) [2] proposed a cash cycle indicator to measure

the overall level of corporate working capital management, and defined the cash cycle as the sum of the inventory turnover period and the receivables turnover period minus the accounts payable. Turnover period. Gentry, Vaidyanathan, and Lee (1990) [3] proposed a modified CCC model-weighted average cash cycle model based on previous scholars' research on cash turnover (CCC). Cash flow during the cash flow period has different characteristics in terms of time and quantity in various stages.

China's research on working capital management began in 1993 when China's juice system and international system converge, and working capital began to be introduced as a financial concept. At present, the concept of domestic working capital is basically consistent with that of foreign countries. Zhang Wei (2014) [25] based on the data of 9 listed companies from 2009 to 2012, using working capital adequacy ratio, long-term debt and working capital ratio and sales and working capital ratio to calculate their working capital management level. analysis. Bai Jing and Wang Dongmei (2010) [19] used the working capital turnover period as an evaluation indicator of working capital management efficiency when studying the working capital management of the energy industry. The working capital turnover period is to add the enterprise receivables turnover period plus the inventory turnover period. The cash conversion period is based on the working capital turnover period, and then the accounts payable turnover period is subtracted. This indicator reflects the turnover efficiency of the working capital of the enterprise. The smaller the value, the faster the turnover, and the stronger the profitability of the enterprise.

In the existing research on the efficiency of working capital management, most scholars focus on the correlation between working capital management efficiency and corporate value, corporate profitability or performance, and most directly use cash turnover period to express working capital management efficiency. . The company's funds are in a continuous flow process, and the management of working capital is equivalent to a controller to control the flow and direction of funds to maximize profits. How companies obtain and use funds is the management of working capital, so the level of financing and investment will also affect the management efficiency of working capital. This paper believes that the management efficiency of working capital is not only reflected in the turnover of inventory, accounts receivable and accounts payable, but also should be combined with the ability of enterprises to raise funds and invest in specific analysis.

3. Factor Analysis

This paper uses factor analysis to establish an evaluation system for the efficiency of working capital management in the retail industry. The basic purpose of factor analysis is to describe a number of indicators or variables with a few factors, that is, to classify several variables with relatively close correlations into the same class. Each type of variable becomes a factor, which is reflected by a few factors. Most of the information in the original material. Because there are many financial indicators that reflect the efficiency of working capital management, we use factor analysis to reduce the indicators and obtain a common factor to indicate the efficiency of working capital management. This paper carries out data analysis software for SPSS 21.0.

3.1 Selection of Samples and Indicators

In the study of the working capital management efficiency evaluation system, in order to avoid the excessive impact of the simultaneous listing of *ST enterprises and A and B shares, this paper selects 83 companies that have eliminated the above two items for research. This paper selects the financial data of 83 A-share listed companies from 2012 to 2016 as a sample for research. The financial data comes from Csmar database.

Through the above analysis of the status of the working capital management of the retail industry, it is considered that the efficiency of the working capital management of the industry can be analyzed from

four aspects, namely, working capital policy, investment ability, operational ability and financing ability. Therefore, this paper selects the indicators shown in Table 1 for research.

Table 1. Evaluation index

	Evaluation index	Code	Indicator direction
policy	Robustness of working capital policy	X1	Positive
Investment ability	Total net profit margin	X2	Positive
	Operating liquid assets net interest rate	X3	Positive
	Working capital productivity	X4	Positive
Management capacity	Accounts receivable turnover	X5	Positive
	Inventory turnover	X6	Positive
	Accounts payable turnover rate	X7	Negative
	Working capital turnover	X8	Positive
Fundraising ability	Current ratio	X9	Moderate
	Cash ratio	X10	Moderate
	Cash current debt ratio	X11	Moderate
	Operating current asset-liability ratio	X12	Moderate

3.2 Data Processing

This study selects 12 financial indicators from the four aspects of the stability, profitability, investment ability and financing ability of working capital policy. Since there are many indicators selected, there may be a big difference between the indicators. For example, some indicators are bigger as possible, while others are smaller. The better the indicators are, the closer they are to a value. it is good. In order to make the research results more accurate, we choose to homogenize the indicators and normalize the negative and moderate indicators. The process is as follows:

$\text{Negative indicator}\ X'_{ij} = -X_{ij}$

$\text{Moderate indicator}\ X'_{ij} = -\left|X_{ij} - K\right|$

Where: K is a fixed value, and the indicator is converted to the average of all sample variables of the indicator.

Since individual indicators in the sample data carry units, standardization is also required to unify the dimensions. We use the Z-score standardization method, which is standardized by the mean and standard deviation of the indicators. This paper uses SPSS 21.0 to standardize the data.

3.3 Factor Analysis

Table 2. KMO and Bartlett's inspection

Sampling enough Kaiser-Meyer-Olkin metrics		0.666
Bartlett's sphericity test	Approximate chi square	1543.074
	df	66
	Sig.	.000

Since the factor analysis is to reduce the dimension of the indicator and obtain a common factor that can represent all the original data, there is a strong correlation between the indicators for factor analysis. Therefore, the variables are tested by KMO and Bartlett. The closer the KMO value is to 1, the stronger the correlation between the variables is, the more suitable the original variables are for factor analysis; the closer the KMO value is to 0, the correlation between variables the weaker the sex, the less suitable the original variable is for factor analysis. After analysis, it is found that the correlation between the indicators is relatively high, and the table 2 KMO value is 0.666, which is closer to 1, so

we think that the selected indicators can be factor analysis. At the same time, the correlation between the indicators is also reflected in the common factor variance table obtained by SPSS analysis. The values shown in the column of "extract" in the table indicate that all the extracted factors can explain the degree of each index. The median value is around 76%, so we believe that the extracted common factors can be used to represent the original information, that is, the factor analysis method can be used for analysis.

In general, factor analysis extracts factors with eigenvalues greater than one. In this study, a total of five factors were extracted, and the interpretation of the 12 original indicators by these five factors was 69.175%. Only about 30% of the original information was lost, and the factor analysis results were ideal.

3.4 Factor Naming

The degree of interpretation of the extracted factors for different abilities can be seen, and the factors are named accordingly. Factor 1 has a greater degree of interpretation of X1, X9, X10 and X12, and X9, X10 and X12 all indicate fundraising ability, so we believe that common factor 1 mainly explains the fund-raising ability and is named as the fund-raising capacity indicator. Factor 2 has a greater degree of interpretation of X2 and X3, while X2 and X3 both represent investment capacity, so we believe that factor 2 mainly explains investment ability and is named as investment capability indicator. Factor 5 has a greater degree of interpretation of X5 and X7, while X5 and X7 both represent operational capabilities, so we believe that factor 5 mainly explains operational capabilities and is named operational capacity indicators. Factor 3 has a greater degree of interpretation of X6 and X11. Unlike the above three indicators, X6 and X11 are indicators of different capabilities, but they are all related to the liquidity of capital. We named this factor as the liquidity index. Factor 4 has a greater degree of interpretation of X4 and X8, and is the same as Factor 3. His main explanation is derived from two different capabilities, but Table 1 shows that both indicators are related to working capital, so we named the factor. For operational indicators.

After learning the ability of the factor's main interpretation and naming the factors, we get the following five factor expressions based on the factor score coefficient matrix:

$$F1= -0.282\times X1 - 0.001\times X2 + 0.060\times X3 - 0.043\times X4 - 0.038\times X5 + 0.049\times X6 - 0.045\times X7 - 0.020\times X8 + 0.321\times X9 + 0.321 + 0.262\times X10 + 0.007\times X11 + 0.313\times X12$$

$$F2=0.065\times X1 + 0.523\times X2 + 0.549\times X3 - 0.096\times X4 - 0.006\times X5 - 0.128\times X6 - 0.002\times X7 - 0.073\times X8 + 0.032\times X9 + 0.044\times X10 - 0.030\times X11 + 0.060\times X12$$

$$F3=0.330\times X1 + 0.081\times X2 + 0.097\times X3 - 0.040\times X4 + 0.038\times X5 - 0.591\times X6 - 0.037\times X7 - 0.075\times X8 + 0.059\times X9 + 0.237\times X10 + 0.487\times X11 - 0.054\times X12$$

$$F4=0.056\times X1 - 0.005\times X2 + 0.038\times X3 - 0.667\times X4 - 0.121\times X5 + 0.101\times X6 + 0.098\times X7 + 0.654\times X8 + 0.006\times X9 + 0.049\times X10 + 0.082\times X11 + 0.006\times X12$$

$$F5=0.067\times X1 + 0.002\times X2 + 0.007\times X3 + 0.126\times X4 + 0.553\times X5 + 0.071\times X6 + 0.757\times X7 + 0.073\times X8 - 0.035\times X9 - 0.096\times X10 + 0.131\times X11 + 0.080\times X12$$

Combining the factor contribution rate, the comprehensive score expression of the working capital management efficiency of the retail industry is obtained:

$$Fn=24.327\%\times F1 + 14.999\%\times F2 + 11.731\%\times F3 + 9.080\%\times F4 + 9.036\%\times F5$$

Bring the standardized X value into the formula F1-F5, you can get the value of 5 common factors, and then bring the value of the main factor into Fn to get the working capital management of each enterprise in 2012-2016. The score of efficiency, and finally the total score of a company is added together to get the overall ranking of the company.

After drawing the comprehensive score sheet, this paper analyzes the changes in the scores of each company in the past five years, focusing on the top three and the last three in the annual ranking, and

the top three in 2012-2016. The most popular companies are Maoye Business, which has appeared four times in total, ranking only 15 in 2015. The top three companies in the rankings are Hengxin East, which has appeared four times in total, ranking only 50 in 2012.

4. Conclusion

Through the analysis of the status quo of the working capital management of the retail industry and the establishment of the evaluation system of the working capital management efficiency of the retail industry, it is concluded that: 1. Although the sales revenue of the retail industry has increased from year to year, the ratio of increase to the rate of increase in assets is not synchronized. 2. The overall turnover ratio of the retail industry is not high. 3. The ability of the retail industry to pay back is in a downward trend. Therefore, this paper proposes the following suggestions:

1. Retail companies should pay attention to the ability to pay back receivables.

In order to ensure that the company can return the money as scheduled, the company should be cautious in selecting customers and formulate a unified sales preferential standard: large customers with good reputation can enjoy more price concessions and payment preferential policies; otherwise, customers with bad reputation can give up or Ask them to pay the cash.

2.The enterprises with lower comprehensive rankings of working capital management efficiency in the retail industry should pay attention to the management of working capital.

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