Making Accounting Ratio Analysis More Powerful

INTRODUCTION:

Accounting information users assess the companies' financial and operational performance mainly by analysis their financial statements. The most popular and traditional way is using accounting ratios to approach the analysis results. However, many academicians tested and reported its limitation based on previous dates and presented some alternative ways to do financial analysis. Should accounting ratios analysis be replaced by the other better methods? Or should we still regard it as the most powerful tool and use it more efficiently in ameliorated way?

In the first part of this article, the advantages and limitations of ratio analysis will be listed. Then empirical studies about alternative way such as regression analysis will be introduced. In the third place, the shortcoming points of two key ratio figures will be discussed as examples, and some relative solutions around them will be presented. At last, a full exposition of how to use ratio analysis more powerfully to expose the financial performance of companies will be displayed.

1. Advantages and Limitations of Accounting Ratios

1.1 Introduction of accounting ratios

Accounting ratios analysis is the most widely used method to evaluate

the financial performance of a company. There are three types of ratio analysis:

a) Time series analysis (or “intertemporal comparison”) is the comparison of the figures for one year with those of the preceding years within the firm.

b) Cross-sectional analysis (or “interfirm comparison”) “involves making a comparison with other companies in the same industry ” (Walton P. P.154) or an industry average for the same year.

c) Absolute benchmark—balance sheet ratios & income statement ratios

1.2 Advantages for using accounting ratios analysis

Accounting ratio is emphasizing the efficiency instead of absolute number comparison. “The most powerful feature of ratios is to avoid the size difference problems between companies and the problems when we only look at the figures alone.” (Chin-bun Tse, P.246) It is easy to calculate by using fraction and easy to understand as well. Besides these, accounting ratio analysis can provide important information for managers, investors and creditors.

a) For managers, accounting ratio analysis can not only disclose the

financial situation of the company in the marketing competition, but also can help managers to find out the weakness point quickly and mend it during the operational period.

b) For the investors, they can know the profitability and the whole financial performance of a company by using accounting ratio analysis to make the investment decision.

c) For creditors, they can have some idea about how well the company can manage the debt obligation and decide to enlarge or reduce the amount of lending.

1.3 Limitations

According to the empirical researches and studies, we can classify the limitations of accounting ratio analysis into the following four groups:

a) Comparison problems

There are many factors can affect the final comments during the analysis. Here are some of them:

----Different accounting methods can lead different judgments For example, in stock valuation; FIFO and LIFO methods can reflect the cost of sales differently when the stock prices change heavily. The difference of choosing depreciation methods is another reason to cause comparison problem between different companies.

-------Different sizes, different strategies can also lead different requirements of ratio standards. Some other uncounted factors such as goodwill can make the comparison even harder.

--------The benchmark of specific industry is very difficult to get and changing frequently.

b) Accounting problems

------Different accounting period makes cross-sectional comparison more unauthentic.

------The conflict between historical cost convention and accrual convention make the profitability and other ratios unbelievable in hyper-inflation or hyper-deflation period.

------The carrying information of accounting ratios derived from financial statements is limited because the dates in financial statements are limited.

c) Window dressing problems

------The ratio is the result of divisor of two numbers. It's easy to adjust ratios simply by reduce or increase denominator and numerator at the same time.

------Because the financial statement is a "snap short" of financial performance of the final day in each accounting period, it's also not hard to do some artificial transaction before that day and make ratios looks better.

d) Ratio characteristic problems

------It only describes the relationship between two figures, thus the information reflected by single ratio is limited.

------It assumes the relationship between two figures is leaner with no constant term. It is against the real situation in some extend.

------Lack of consideration about complicated economic environment to predict future performance by previous ratios.

2. Some Empirical Argument Around Ratio Analysis

2.1 Accounting ratio analysis VS. Regression analysis

2.2 Accounting ratio analysis VS. Z-cross analysis

3. Reorganize the ratios

According to the discussion so far, the predominance of accounting ratio analysis compare with other methods is obvious. When taking a closer vision to the ratios, you can discover more and use it more flexibly and freely if only you can fully understand them and use them with clear purpose.

There are four general accepted categories of ratios: Liquidity, profitability,

gearing and market ratios. In the following part, I will take two important ratios for examples to show how can we adjust ratios to make them more powerful.

3.1 Liquidity ratio

"Liquidity ratios are used to measure a firm's ability to meet short-term obligations." "One of the most general and frequently used of these liquidity ratios is the **current ratio: Current assets/ Current liabilities**"(James & John, 2001)

Generally, if the ratio is higher than the median ratio for the industry, the company's liability is more guaranteed. However, we can see the unreliability from these three aspects:

Firstly, current ratio is easy to gloss over. Accountants can pay the current liabilities by current assets temporarily (higher the ratio by reduce the denominator and numerator at the same time as mentioned before); they can also higher the current ratio by reduce the rate of reserve for bad debts, confirm the sales income ahead of time or Postpone carrying down the selling cost. No matter the enterprises intend or carries on above-mentioned activities having no intention, will all exert an influence to this ratio, Thus mislead the information user.

Secondly, The evaluation criterion of current ratio is difficult to define. Generally thinking, the liquidity ratio value of the production enterprise

keeps comparatively suitable about 2, the taller its value is, the stronger its paying short-term debt ability is. However, with the proposition of " zero operating capital", people have put forward the query to this view. A so-called" zero operating capital", means that the enterprise current assets are equal to or smaller than the current liability. So there should be less embodied in stock, and account receivable plus short-term investment is lower than account payable plus short-term loan. This kind of state means that the liquidity ratio of the enterprise will be smaller than or equal 1. According to the traditional idea, this enterprise operating risk relatively great, short-term debt paying ability is relatively bad. But pursuing “zero operating capital” can make unit cost create more incomes through reducing the account receivable and stock to the maximum extent. Obviously, " zero operating capital" helps to promote the operational efficiency and maximizing its wealth. However, if appraise the debt paying ability of this kind of enterprise according to the traditional standard and will draw wrong understanding and judgment.

Thirdly, liquidity ratio is difficult to reflect the whole short-term debt paying ability. The liquidity ratio index was calculated out by relevant data in the balance sheet. In fact, there are some factors not reflected by balance sheet will influent the short-term debt paying ability too, even greater. These factors include: (1) Strengthen ability factors: **a).** The amount of loan, which

has already promised by bank but didn't transact. **b)** For a certain reason, the enterprise plans to sell and turn some long-term assets into cash quickly by conscious decision. **c)** The reputation of debt paying ability. If the long-term debt paying ability of the company is always very good, while encountering paying the short-loan debit difficulty, the company can solve the cash shortages problem by issuing securities such as bond and stock, quickly improve short-term debt paying ability. (2) Weaken ability factors: **a)** Contingent liability (it the debt probably happen) not be noted down. The contingent liability include selling compensate of the products quality accidents, compensate of losing a lawsuit, the dispute of tax paying, etc. All of these affairs will not be reflected in the report form. As soon as the contingent liability becomes real debt, the pressure of paying debt will be much higher. **b)** Secured liability for other companies. Company may make some own current assets to assure for other companies loan. This kind of assurance may become the debt of the enterprise, increasing the debt.

In order to overcome the defects of liquidity ratio, appraise the debt paying ability of the enterprise comparatively objectively, we can improve the methods by using following created ratios instead:

1. "Super Quick Ratio" =(monetary asset + short-term investment + bill receivable + net amount of account receivable + mature long-term loan

investment within one year-the amount of account receivable which age is greater than one year) /current liability. This calculation formula deducts inventories, removes some other accounts which have nothing to do with cash flow at present (such as amortization) and some items which will affect the credibility of quick ratio (such as account receivable over one year) In these way, we can appraise the short-term debt paying ability of the enterprise better.

2. Operational net cash ratio =net cash flow in operational activities /current liability in the beginning of the year-current liability in the end of the year. This index is to reflect the ability that the net cash flow gains from annual operational activities to repays current liability from cash flow aspect. Because the amount of profit is not equal to the amount of cash, the ratio utilizing cash basis accounting can directly reflect the cash paying ability without counting other complicated factors. The higher this rate is, the stronger debt paying ability the company has. Vice versa.

3.2 Gearing Ratio

There are two major ratios for gearing ratio: Debt-to-Equity Ratio and Debt-to-Total-Assets Ratio. Here we will discuss later shortly.

The debt-to-total assets ratio refers to the total value in debt divided by percentage of assets total value. The greater this ratio is, the heavier of the

company's debt burden is and the less the creditors loan ensure is. But in practice, people still have some misunderstanding of the debt-to-total assets ratio, and should do some amelioration to count it.

Firstly, many people think that the lower the debt-to-total assets ratio is, the stronger the debt paying ability the enterprise has. Actually, along with the rapid development of financial circumstance, proper leverage is very essential for enterprise to expand the scale, accelerate the development. Some enterprises, which have powerful growth momentum and wide market prospects, get the sufficient fund to put into the project with high rate of return through borrowing money. It is very wise to consider its action from a long-term advisement. On the contrary, companies those are managed improperly with bad profit ability, even its debt-to-total assets ratio is very low, it's hard to say their debt paying ability is strong either. So, appraising the long-term debt paying ability of the enterprise, we should not only see the figure of the debt-to-total assets, but also combine it with the rate return on assets (ROA) to analysis. If the unit assets earning capacity of is strong, there is relatively high asset-liability ratio is allowable. Sometimes we even need to think about profitability more carefully: Some project has long-term high return, but at the beginning of payback period, the return is often relatively low, even zero. This makes ROA unable to revise the situation that asset-liability ratio. At this moment, we should look into the investment

project, the use of the borrowing money, and combine other ratios when we analysis the debt paying ability of the company.

Secondly, without considering profitability, the debt-to-total assets ratio under 50% is still not safe enough to assure the creditors' right as many people regard. This kind of view think that the debt-to-total assets ratio is higher than 50%, the enterprise owner's own capital must not be less than 50%. When the enterprise clears bankruptcy, the own capital is enough to commute debt. Actually, there are some property that can not be counted the bankrupt property and use them for paying the debts. For instance, the company uses the property to assure or mortgage and the facilities of welfare purpose, such as accommodation of employees, school, kindergarten, hospital, etc. In addition, the enterprise still has some assets belong to " expenses" in essence such as deferred expense, deferred assets, the net loss of the assets (fixed or current assets) waiting to deal with, debit's remaining sum of " the disposal expense of fixed assets ", etc. These "asset" are unable to be cashed and use to pay the debt. The method to improve it is simple deduct these amounts for the denominator of the ratio equation. Because of deducting the assets can't pay the debts, the overall debt paying abilities of enterprise is reflected more objectively by this formula.

3.3 Accounts Receivable Turnover

Accounts receivable turnover=Net Sales/Average Account Receivable. It is number of times that trade receivables turnover during the year. Generally thinking, the higher the turnover, the shorter the time between sales and collecting cash. But there are still some limitation exists**.**

4. Conclusion

As a result, financial ratio analysis should be improved instead of abandoned. Once you clearly make your objectives, fully understand the ratios you are choosing, you can use ratios in more efficient way to do financial analysis. Even more, you can build your own ratio equation to do the analysis for your specific purpose. The dates required by the amended equations are no longer difficult to get with the convenience of computer accounting. At the same time, you should better pay more attention to the time-series tendency and cross-sectional comparison than only analysis individual ratios. Furthermore, the activities out of financial statement should be aware by a good analyst. In a total, trope as a gun, accounting ratio analysis can be a clump of scrap iron in an unsuccessful user's hand, and it can also be a very powerful weapon in an experienced user's hand. It all depends on how to use it more powerfully.