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A study on relationship between lower of cost or market and tax

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A B S T R A C T

Measuring the value of inventory and cashable assets is one of the issues, which influences on total revenue as well as the amount of tax paid to government. This paper presents an empirical investigation to study the relationship between lower of cost or market (LCM) and tax on 708 selected firms listed on Tehran Stock Exchange over the period 2008-2011. The study uses some statistical tests and determines that the tax can be affected by different methods used to calculate the inventory. In other words, The study applies regression analysis as well as Pearson correlation test and confirms that LCM method influences positively on Tax. This helps revenue agencies pay special attention to various methods used in official financial reports.

1. Introduction

Lower of cost or market (LCM) is a technique for inventory value assessment. Normally ending inventory is considered at historical cost but there are times when the original expenses of the ending inventory is bigger than the cost of replacement, which means the inventory has lost some value. If the value of inventory decreases in value below historical expense then its carrying value is reduced and reported on the balance sheet. The criterion for announcing this is the current market value (Graham & Li, 1997; Burkhardt & Strausz, 2009). During the period from 1998 to 2000, China used various new asset write-down regulations that mandated lower of cost or market accounting (LCM) for most non-cash assets. Hyder (2009) identified a cost tradeoff relevant to the comparison of alternative accounting regimes. They compared equilibrium deadweight losses, due to transacting and auditing, across the historical cost, LCM, and market value regimes. They provided necessary conditions for each of the regimes to dominate the other two. They explained that while market-value accounting was likely to prevail in an inflationary setting, it could also be optimal under deflation. Similarly, LCM could likely to prevail in a deflationary setting, though it could also be optimal under

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inflation. Yang et al. (2005) evaluated relevance and reliability of these regulations for investors in China. They measured the association of net asset value with market value of equity and the association of accounting income with stock return, on both a historical expense accounting (HCA) basis and on an LCM basis. A fixed-effects model controlling both year and firm effects is used in a balanced panel sample. The panel regressions indicated high levels of explanatory power and LCM values could be relevant but may be measured with some error that they did not improve the prediction of firm values. Reliability is measured using non-nested, overlapping model comparison tests (J and Cox). The study also considered whether discretionary motivations impact the amount of write-down and supported the relevance of LCM reforms, but reported that reliability was not increased over HCA during the period under study. Reliability appeared to be reduced by the voluntary nature of LCM provisions during part of the period and by the impacts of opportunism for some firms in the sample.

Peng and Bewley (2010) developed a model to demonstrate that transparent accounting could worsen the asset substitution impact of debt. This negative impact can outweigh the usual positive impact of transparency. They presented this point by comparing pure historical cost accounting to the conservatively skewed accounting regime of LCM. In a market with asymmetric information, the two regimes lead to various degrees of transparency. The more transparent LCM regime could generate efficient results for companies with lower debt levels. Barniv and Bao (2009) examined inventory management from an incentive point of view. They explained that when a manager had private information about future attainable revenues, the residual income performance measure based on historical expense could reach optimal (second-best) incentives with regard to managerial effort as well as production and sales decisions. They provided some support for the LCM inventory-valuation rule in situations where the manager receives new information after the initial contracting stage.

2. The proposed study

This paper presents an empirical investigation to study the relationship between lower of cost or market (LCM) and tax among 708 selected firms listed on Tehran Stock Exchange over the period 2008-2011. There are two hypotheses associated with the proposed study of this paper as follows,

1. There is a meaningful relationship between tax on one side and LCM as well as cashable current assets on the other side.

2. There is a meaningful relationship between tax and different methods for evaluating non-cashable current assets.

The second hypothesis of this survey is divided into the following two sub-hypotheses,

1. There is a difference between LCM, net sales and tax.

2. There is a difference between method to calculate net sales and tax.

Kolmogorov–Smirnov test indicates that all component of the survey are normally distributed and therefore we use Pearson correlation test as well as regression analysis to investigate the relationship between different components of the survey.

3. The results

In this section, we present details of our findings on testing the hypotheses of the survey.

3.1. The first hypothesis: The relationship between LCM and Tax

The first hypothesis of the survey investigates whether there is a meaningful relationship between tax on one side and LCM as well as cashable current assets on the other side. The result of Pearson

correlation test between LCM and Tax is equal to 0.945 with P-value = 0.000. Therefore, we can confirm the first hypothesis. Eq. (1) presents the results of regression analysis as follows,

$$\begin{aligned} &Tax = -7\times10^{9} + 2.45LCM \\ &\text{t-value} \qquad 34.429 \\ &\text{P-vaue} \qquad 0.0000 \end{aligned} \tag{1}$$

The regression analysis also confirms that the first hypothesis since the coefficient of LCM is statistically significant and the sign is positive.

3.2. The second hypothesis: The relationship between Sales and Tax

The second hypothesis of the survey investigates whether or not there is a meaningful relationship between tax and different methods for evaluating non-cashable current assets. This hypothesis consists of two sub-hypotheses, which are considered next.

3.2.1 The relationship between LCM, net sales and Tax

The result of Pearson correlation test between LCM, net sales and Tax is equal to 0.741 with P-value = 0.000. Therefore, we can confirm the first hypothesis. Eq. (2) presents the results of regression analysis as follows,

$$\begin{aligned} &Tax = -6\times10^{9} + 1.75LCM \,/\, Net\ Sales \\ &\text{t-value} \qquad 25.772 \\ &\text{P-vaue} \qquad 0.0000 \end{aligned} \tag{2}$$

The regression analysis also confirms that the first sub-hypothesis since the coefficient of LCM is statistically significant and the sign is positive.

3.2.2 The relationship between LCM, net sales and Tax

The result of Pearson correlation test between net sales and Tax is equal to 0.698 with P-value = 0.000. Therefore, we can confirm the first hypothesis. Eq. (3) presents the results of regression analysis as follows,

$$\begin{aligned} &Tax = -11\times10^{9} + 2.67Net\ Sales \\ &\text{t-value} \qquad 14.259 \\ &\text{P-vaue} \qquad 0.0000 \end{aligned} \tag{3}$$

The regression analysis also confirms that the first sub-hypothesis since the coefficient of Net Sales is statistically significant and the sign is positive.

4. Conclusion

In this paper, we have presented an empirical investigation to study the effects of LCM method for evaluating cashable current assets on Tax. The study has applied regression analysis as well as Pearson correlation test and has confirmed that LCM method influences positively on Tax. The study raises some awareness on revenue agencies on paying more attention on methods for evaluating inventories.

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References

Barniv, R.R., & Bao, Y. (2009). Where corporate governance and financial analysts affect valuation. *Journal of International Financial Management and Accounting*, 20 (3), 240-273.

Burkhardt, K., & Strausz, R. (2009). Accounting transparency and the asset substitution problem. *Accounting Review*, 84(3), 689-712.

Graham, L.E., Li, C. (1997). Cultural and economic influences on current accounting standards in the People's Republic of China. *International Journal of Accounting*, 32(3), 247-278.

Hyder, C.(2009). Is the tax man coming? The IRS is targeting raw material inventories. *Concrete Producer*, 27 (10), 27-29.

Peng, S., & Bewley, K. (2010). Adaptability to fair value accounting in an emerging economy: A case study of China's IFRS convergence. *Auditing and Accountability Journal*, 23(8), 982-1011.

Yang, Z., Rohrbach, K., & Chen, S. (2005). The impact of standard setting on relevance and reliability of accounting information: lower of cost or market accounting reforms in China. *Journal of International Financial Management & Accounting*, *16*(3), 194-228.