The LIFO paradox and efficient stock markets

by Shyam Sunder

The Last-In, First-Out (LIFO) method of inventory accounting can save many businesses millions in tax dollars when unit prices rise.

However, one of the more fascinating puzzles of corporate behavior is that LIFO accounting was not widely used until the mid-1970s when inflation soared. Internal revenue code has permitted LIFO accounting for almost 40 years. Businesses could have saved billions of tax dollars using LIFO earlier. Many firms who would benefit from it are still reluctant to adopt it.

Manufacturers and traders often buy identical goods at different prices in different transactions. Under LIFO cost of latest purchases is deducted from revenue to reckon profit. If the cost of later purchases is higher, use of LIFO yields a lower profit as compared to the First-In, First-Out (FIFO) method where cost of earlier purchases is used to compute profit. Smaller profit is accompanied by a smaller income tax payment.

For example, if a barrel of oil is purchased at $20 and sold at $25, profit is $5. Oil purchased later for $22 and sold for $25 yields $3 profit. FIFO accounting assumes that the barrel of oil purchased first is the first sold. LIFO assumes that the last barrel in is the first to go out. Even with identical purchase and sale transactions the choice of inventory valuation method has a major impact on annual profit and taxes.

Corporate charity towards government is too unconvinced an explanation of business’ reluctance to adopt LIFO. Corporate rationality at this level is too facile an explanation as well. Most observers blame the structure of managerial compensation plans and stock market inefficiency for such corporate behavior. But neither explanation survives close scrutiny.

Compensation of senior managers is often linked to reported profit. Managers may be expected to avoid LIFO for the fear that its lower reported profit will reflect poorly on their abilities and results in lower compensation for them. However, managers who use LIFO can save the company millions, far in excess of the extra compensation they could personally earn from FIFO-based accounts. A smart board of directors should ensure that the bonus formula for managers encourages their value-maximizing decisions for the firm through generous rewards.

Indeed, an empirical study of the effect of applying LIFO to managerial compensation revealed no adverse effects. Compensation theory of reluctance to adopt LIFO simply shifts the irrationality to the board of directors. Therefore it’s unconvinced.

It’s also argued that managers are reluctant to use LIFO for the fear of hurting their firm’s stock price. Unsophisticated investors may fail to appreciate that the only real effect of this accounting technicality is to put more money in the firm’s bank account through taxes saved. Lower reported income that accompanies LIFO may be interpreted by such investors as a sign of the firm’s

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poor management or poor prospects. It may induce them to lower the price they are willing to pay for stock. Lower stock price hurts managers who hold shares or options to buy the shares. The firm will very likely be subjected to a take-over bid.

However, this explanation is based on the assumption of inefficiency and lack of sophistication in the stock market not supported by evidence. Twenty-five years of accounting and finance research strongly suggests that stock market prices adjust quickly and unbiasedly to public information. LIFO's been around a long time and people know about it. It's unlikely that a firm's stock price will go down if LIFO is properly adopted. Empirical measurements of stock market reaction to LIFO adoptions do not support fear of adverse reaction.

Given stock market efficiency, stock price would promptly reveal the firm's value under current management, distinguishing good managers from poor managers. The poorer managers, once identified, will be forced to acquire better skills or forced out by competitors inside and outside the firm.

The LIFO puzzle cannot be solved by assuming that individuals behave irrationally; that they choose from known and available options those less satisfactory to them. A solution can be constructed by assuming that the information and beliefs they hold about their environment do not necessarily conform with the facts. Others may or may not know the facts. Economics of uncertainty suggest a way to solve this puzzle.

Reluctance to adopt LIFO cannot be explained by irrationality on the part of managers, boards of directors or investors. If all managers and investors were rational, and their bonus schemes properly designed, managers may still fail to adopt LIFO if they perceive investors as irrational. Even though investors know that adopting LIFO is rational, many managers simply do not believe that investors will value stock based on cash flow rather than accounting earnings. Therefore, the managers' decision not to adopt LIFO is, for them, rational. It is much easier to accept that such beliefs about others' irrationality coexist with their actual rationality. The discrepancy between the actual behavior of investors and how some managers believe the investors behave leads to their reluctance to adopt LIFO.

Coexistence of facts and beliefs contrary to facts is easy to confirm by direct observation. Different people often hold diametrically opposed beliefs about the same phenomena. Both cannot be correct. Such diversity of belief often persists over time because the mechanisms for testing the validity of beliefs are far from perfect. A manager who believes investors are unsophisticated in valuing stock based on accounting income and not on the firm's cash flows may have ample environmental evidence to reinforce that belief. Evidence to refute that belief may be unavailable or take a long time to gather and analyze. Revision of beliefs on the basis of observable evidence is neither prompt nor certain.

It is an empirical fact that many managers believe that individual investors are unsophisticated and that even the overall stock market may behave in an unsophisticated manner. When such managers choose between LIFO and FIFO, they seek to maximize what they expect their firm's stock price to be under each option. Rational investors value the stock, and the stock price is in turn observed by the managers. This stock price does not necessarily inform the managers that their beliefs about investors are incorrect. The stock price the managers expect to observe can be very close to what they actually observe. The market does not always help managers discover their beliefs are wrong because they continue to act according to these beliefs.

Revision of managers' beliefs about how stockholders behave happens over time through non-market mechanisms. Reading the financial press and attending seminars and courses slowly change the managers' beliefs. Only then do they change their decision rules. With LIFO, it's taken almost 40 years to change the beliefs of many managers. The job is not yet done.

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