Stock Price and Risk Related to Accounting Changes in Inventory Valuation

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During an inflationary period, changes to the Last In, First Out (LIFO) method of inventory valuation generally result in reduction of reported earnings and in deferment of tax payments. If the investors rely on the reported earnings, the stock price of the firms which change to the LIFO method will decrease; if they rely on the economic value of the firms, the stock price will increase. Several studies (Kaplan and Roll, 1972; Archibald, 1968) of the relationship between accounting changes and stock price behavior have been conducted by using a research design proposed by Fama, Fisher, Jensen and Roll (1969). The design involves the use of the market model to isolate the stock price changes associated with specific events from the market-wide price changes. It has been shown by Sunder (1973) that: (a) a possibility exists that the changes in accounting for inventory valuation may be associated with changes in the relative risk of stocks, and (b) in the presence of risk changes, application of Fama et al.’s research design which assumes that the relative risk of the firms involved is constant may yield misleading results.

The present study is an attempt to measure the association between the accounting and price changes by abstracting the effect of risk changes. This is accomplished by estimating the time path of the relative risk of stocks during the months surrounding the date of accounting change. The problem of estimating the relative risk of stocks when it is not constant is considered in the next section. The use of Cooley and Prescott’s (1972, 1973a, 1973b) adaptive regression model is proposed for the estimation of risk, and this estimation procedure is applied to stock price data of the firms which made accounting changes to or from the LIFO method. Conclusions of the study about the relationship between stock price behavior and accounting changes are presented in the last section.