

The relationship between annual security returns and earnings changes

Following the Ball and Brown 1968 study identifying that earnings announcements are mostly anticipated, subsequent papers investigated the annual association between annual changes in price and annual changes in earnings. One of the key papers to examine this was

Beaver, Lambert, Ryan, “The Information Content of Security Prices”, Journal of Accounting & Economics, July 1987, 139-157.

1. Basic idea

This study looks at the general link between security returns and annual earnings. All companies have 31 Dec year end and stock returns are measured from 31 Dec to 31 Dec (page 150).

G_t = annual % change in security price
 g_t = annual % change in earnings per share

If we regress G_t on g_t , then there is a problem of errors in variables which gives rise to bias in the regression coefficients. This arises because the earnings that drive stock prices are permanent earnings, not reported earnings. BLR get round this by reverse regression. They run

$g_t = \alpha + \beta G_t$ between 1965 and 1983.

In the new equation, the measurement error in g_t is now captured in the error term of the regression and the β coefficient is unbiased.

2. Results

At the individual security level, they find (Table 2) that β is about 0.59 and very significant.

They also estimate the effect of G lagged one period, G_{t-1} . They run the regression

$g_t = \alpha + \beta G_t + \delta G_{t-1}$

which attempts to predict % earnings changes from *prior* movements in the stock price.

In Table 4 they show that the average value of β is 0.60 (as in Table 2) but that the value of δ is 0.17 and significant. This means that stock returns in one year contain information about earnings in the following year.