TESTING FOR THE PRESENCE OF MOMENTUM AND MEAN REVERSION IN INDIVIDUAL FIRM RETURNS

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This dissertation examines individual firm returns for the presence of predictable elements. The research is unique to the extent that a random sample of individual firm returns was used. Additionally the paper examines the use of a runs test as a measure of the degree to which firms mean revert. The null hypothesis is that individual firm returns would behave as a random walk.

The examination of individual firm prices for predictable components was investigated with several different techniques. The technique that is emphasized is the use of a duration dependency test. The test was applied to a random sample of individual firm returns. The results indicate that the test generally failed to detect any predictable components in most individual firm returns. Of the firms with predictable components detected by the test, the majority indicated an asymmetric pattern of mean reversion in negative runs. Further analysis was then performed using variance ratio test in order to substantiate the presence of mean reversion. The variance ratio test did indicate some evidence of mean reversion in a portion of the firms that was consistent with the results we found using the duration dependence test. Finally the use of an autocorrelation test with an adjustment for biases due to overlapping data in the underlying data was applied. The results of this empirical research found little to no predictable components in the returns.

The results suggest that in the majority of firms there does not exist a predictable component that can be detected using our empirical tests. The firms that do indicate some degree of predictability as detected by the runs test showed a tendency to mean revert in negative runs. The firms that exhibited these traits tended to be smaller firms. This asymmetric pattern is consistent with some justifications used to explain mean reversion including tax-loss selling and overreaction.