

TESTS OF THE RATIONALITY OF PRICE FORECASTS IN THE STOCK MARKET: A VARIABLE INTERCEPT MODEL APPROACH

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The purpose of this study has been to examine what determines changes in stock prices. According to the notion of rational expectations (RE), stock prices should reflect fundamental values and not deviate from these values. That is, they should be equal to the expectation of these values conditional on all available information. Since conditional expectations may be thought of as forecasts of random variables, forecast errors should not only be unbiased but also be uncorrelated with all available information, which are known as rationality conditions.

We reviewed the basic relationship between a present value of future cash flows and a stock price as the optimal forecast of it if the forecast is made rationally. It was not plausible to test directly this relationship since the present value of the future cash flows could not be observable when the forecast was made. As indirect ways of testing the rationality conditions, regression tests were reviewed and also problems of the tests were discussed. We pointed out that regression tests of the RE hypothesis require rationality conditions, while the OLS estimates require more. The rationality conditions alone, thus, did not yield the valid estimates of coefficients in regression tests. Problems related with testing the rationality conditions with these additional conditions were discussed.

To overcome problems related with regression tests, we suggested the decomposition of the forecast errors to consider directly cross-sectional and time-series behaviors of the forecast errors. With the decomposition, we set up the error components model. Under the specification

of the model, we could check directly the rationality conditions by utilizing the Hausman test (1978) and the Breusch-Pagan test (1980). Test results using industry aggregate data indicated that industry aggregate data could not support the RE hypothesis.