An analysis of stock prices in the housing construction industry

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ABSTRACT

The purpose of this study is to examine the relationship between an index of U.S. common stock prices in the housing construction industry and a variety of explanatory variables including interest rates on Treasury securities of various maturities and other economic variables. We also examine the relationship between the term structure of interest rates and stock prices in the housing construction industry. A sample of week ending values of the housing sector stock index is used as a proxy for the housing industry. The weekly closing interest rates for the 13-week Treasury Bill, 5-year Treasury Note, 10-year Treasury Note and the 30-year Treasury Bond were used in the study. Other data used were the dollar index, the CRB index, the price of gold, the SP500 stock index, and a measure of the yield curve. Data was taken from October 2002 through December 2012. Therefore, a total of approximately 530 cases of weekly observations are included in the study. All variables are converted to a stationary series by taking logs of the raw data and then first differences of the logs of each series. This step is necessary because regression techniques assume a normal distribution of the data. Correlation coefficients were computed to determine what, if any, relationships exist among the variables. Multiple linear regression was then used to find the variables that can best explain the housing sector stock prices. A stepwise procedure was used to identify those variables with the strongest relationships in a multi-variable equation. We, further, used factor analysis to gather similar

variables into factors that could be used to explain the housing sector stock prices. In the multiple regression equation there were three independent variables found with an R-squared of 0.559. In the factor analysis we found three factors with an R-squared of 0.449. The results of the study have practical implications for investors and for housing sector company managers. This study is particularly relevant because of the recent crisis and subsequent recovery in the housing industry in the U.S.