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Entitled

*PREDICTING BEAR TREND IN THE UAE STOCK MARKET USING MACRO-FINANCIAL VARIABLES*

by

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Abstract

Understanding the effects of macroeconomic and financial variables on the stock market trend, especially bear markets, can help different concerned parties to react according to their goals and tasks. Investors can make better investment decisions and allocate assets in their portfolios based on trend expectations. Regulators and decision-makers can adopt adequate precautionary regulations to protect the stock market and economy in general from any negative consequences in the case of a stock market recession. The purpose of this study is to investigate whether it is possible to predict UAE stock markets bear states with the use of macro-financial variables. Monthly data from the Abu Dhabi Securities Exchange (ADX), and Dubai Financial Market (DFM) gathered along with the publicly available Macroeconomic and Financial data. The stock markets indices between January 2004 to August 2022 were utilized to identify the market states or regimes (bear and bull). The Markov-regime switching model (MS), as a parametric measure, was used to identify market states. Binary Logistic models are used to compute variables prediction ability. Out-of-sample tests are conducted to examine the prediction's robustness.

Our first hypothesis (H1) assumes that it is possible to predict the UAE bear stock market by using the macroeconomic and financial variables. Our hypothesis was supported as the computed results were statistically significant to confirm H1.

As a study application, we assessed the practical economic benefit of such a prediction. The second hypothesis (H2) assumes that the investment return of implementing a switching strategy (buy and sell relying on prediction model) will significantly outperform a buy-and-hold strategy. The test results confirmed and supported our second hypothesis (H2).

In our study, we conducted different tests using different techniques and methods to achieve our objectives. We first analyzed the graphical trend of all variables to check for similar movement patterns. Second, we identified and classified the fluctuations in the stock market. We examined empirically the cyclical variations (regime classification) in ADX and DFM indices using parametric approaches. After the bull and bear periods were identified and classified, we employed different types of Markov-switching models (Standard, Trend, Three-regimes) to investigate whether the market trends can be predicted by our study variables. The variables that we considered were: Crude Oil price, Saudi Tadawul (TASI) index, S&P 500 index, Broad Effective Exchange Rate for UAE, Baa Corporate Bond Yield Relative to Yield on 10-Year Treasury Constant Maturity (default spread), and 10-Year Treasury Constant Maturity Minus 3-Month Treasury Constant Maturity (interest spread).

Both in-sample and out-of-sample tests were conducted. The empirical results from monthly data on ADX and DFM price index suggest that our variables are useful predictors of the market trend in all the three models. A further out-of-sample test for forecasting measure and is conducted. The empirical results are robust for the different types of MS models but suggests that the variable can predict ADX out-of-sample more accurately compared to that of DFM, and this supported by the calculated MAPE values, which are used to assess a model's forecasting ability. This result may demonstrate the usefulness of forecasting market trends. The paper is structured as follows. Chapter 1 presents the introduction. Chapter 2 presents the literature review. Chapter 3 presents the methodological framework and hypotheses building. Chapter 4 describes the research methodology. Chapter 5 represents the empirical results of the applied models, bull or bear market classification, model predictability when using the study variables as leading indicators. Robustness tests and the economic value of predicting bear markets are provided in this chapter as well. Finally, the conclusion, limitations, remarks, and recommendations are offered in Chapter 6.

**Keywords:** UAE stock markets, Predicting market trend, DFM, ADX, Nonlinear models.