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**AN ASYMMETRIC ECONOMETRIC MODEL OF THE SOUTH AFRICAN
STOCK MARKET**

by

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Abstract

In this study a structural model of the South African stock market, the Johannesburg Stock Exchange (JSE), was developed and estimated econometrically. The study has made three important contributions to the literature. Firstly, a structural model of the South African stock market has been developed, which quantifies the relationships between the stock market and macroeconomic variables while analyzing the impact of foreign markets and phenomena such as contagion, policy changes and structural economic changes on the JSE. This will improve the economic agents' understanding of the functioning of the stock market and potentially assist in forecasting the stock market.

Secondly, investors are generally assumed to be risk and/or loss averse. This study explains how this risk and/or loss aversion of investors can cause asymmetry in stock prices and the study evaluates different types of stock market asymmetry with advanced econometric techniques such as the threshold cointegration test of Siklos and Enders (2001) and a Markov switching regime model. The Markov switching regime model is used to model the South African business cycle and to construct an indicator for the state of the business cycle, which is in turn used to introduce cyclical asymmetry in the stock market model. The Markov switching regime model is in itself a substantial contribution to the literature since no Markov switching regime

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model has been estimated for the South African business cycle yet. Apart from being used to capture cyclical asymmetry in the stock market, the Markov switching regime business cycle model can also be used to identify turning points in the South African economy and to model economic growth.

Finally, the forecasting performance of the stock market model developed in this study is compared to other stock market models. According to the results, this model is preferred to the other stock market models in terms of modelling and forecasting the level and direction of the JSE. This means that investors and policy markets can use this model to simulate the impact of changes in macroeconomic indicators on the future course of the stock market and use it to develop profitable trading rules.

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