

## THE ANALYSIS OF COLOMBO STOCK MARKET FLUCTUATIONS BY THE MULTIVARIATE STATISTICAL APPROACH

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In Morden world, different types of practices can be seen for investing capitals such as savings money in fix deposits, invest or trade in foreign currency and buy gold bars etc. However, during the last two decades stock market has become more institutionalized platform for trading at consented price between buyers and sellers. As a result, many investors have been investing huge capitals from their budget for buying stocks and derivatives from markets around the world. Colombo Stock Exchange (CSE) is one of the most modernized stock exchange in South Asia with a fully automated trading platform. High volatile fluctuations with instability patterns are common phenomenon in the CSE. This study mainly attempts to understand the trends and cyclic patterns in the CSE in order to predict the future behaviours. In addition to that, Multivariate statistical methods such as principal component methods and discriminate analysis approaches and time series forecasting techniques such as Auto regression and Moving Average (ARMA) and ARIMA techniques were widely applied to identify the directional movements of market prices and trade volumes during January 2002 to December 2013.

The study results reveal that stable and sustainable macro-economic environment with political stability of the country has directly impact on high volatility fluctuations in CSE during last two decades. Moreover, results disclosed that stocks from the banking, finance & insurance (36%), manufacturing (12%), diversified (25%) and trading (7%) are playing significant role in explaining the variations. Furthermore, results of the principal component analysis suggested that GDP levels (0.343), unemployment rates (0.349), consumer spending rate (0.198), inflation rate (0.286), crude oil import rates (-0.043), government revenue (-0.128), total investment percent of GDP (0.238), gross national savings percent (-0.427), net revenue (0.506) and interest rate (0.306) spread have made strong long run relationship with stock market fluctuations in Sri Lanka.

**Keywords:** Auto regression and Moving Average (ARMA) Model, CSC, Market Fluctuations, Principal component analysis (PCA)