

## Oil price shocks and Stock Market Performance : A Case of Indian Stock Market

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### Abstract

The paper studies the empirical relationship between Oil Price Shocks and Stock Market Index movement and their asymmetric responses to oil price shocks. The Indian stock market index was represented by Sensex, and daily closing prices of Sensex and crude oil prices for a ten-year period between 2006 and 2015 were analyzed using dynamic linear regression or ARIMAX. The study indicated that there is no significant evidence of correlation between oil price shocks and stock market index movement; however, stock market index movement is auto-correlated with its two lags. The findings of this paper also show statistically significant asymmetric responses of stock market index movement to oil price shocks. Stock market index movement was negatively correlated with positive oil price shocks, and positively correlated with negative oil price shocks. Subsequently, the equations of the models are used to forecast the stock market index movement. This study uniquely enhances the understanding of bivariate relationships.

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### I. Introduction

MODERN ECONOMIES ARE heavily dependent on oil and oil product elements. The data published by British Petroleum in 2005 points out that 36.4% of the total world energy mix is crude oil, which is a depletable asset and a non-renewable source of energy. It is generally true that higher oil prices result in transfer of wealth from oil consumers to oil producers, and in an increase in cost of production of goods and services. It has been conventionally assumed that increase of oil price has a negative effect on stock prices, whereas some authors have indicated positive relationship on account of stronger business performance, captured by stock market performance, and increased demand for fuel. (Prescatori, 2008; Lin, Fang and Cheng, 2014). Hence, oil plays a vital role in global economic

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In future, it will be interesting to study the volatility of the stock market index movement with respect to oil price shock using GARCH/ ARCH models. Models also can be built to assess the existence of asymmetric volatility in this relationship. Further, other economic indicators such as FDI, GDP, cash flows, exchange rate, interest rates, FII etc. can be included in the dynamic linear regression to analyze the effect of these variables on the stock market index movement.

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