

## The Effects of Economic and Political Events on the Movements of BSE Sensex : A Study of Outliers from 1991 to 2014

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### Abstract

In this paper, we analyse the movement of BSE Sensex over a period of twenty-four years to explore how economic and political events- both national and international- as well as other major world indices affect the Indian stock market. In the first part, we follow a statistical quality control approach with defined control limits to identify major market changes calculated on the basis of daily fluctuations. Thereafter we explain the fluctuations by relating them to various economic and political events classified under five major verticals. In the second part of our study we analysed the relationship between the returns of major world stock indices and the BSE Sensex. International economic events have led to more outliers post the subprime crisis as compared to any other types of events. We found Asian indices having better correlation with BSE Sensex in the post 2000 era, than their US peer. Our study provides important insights to market watchers and policy makers about how political and economic event affects market movement.

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### I. Introduction

THE PURPOSE OF this paper is to attribute outliers in the market movements to major economic and political events and find the correlation between the movements of major world markets over the period of twenty four years. The major market movements are generally attributed to events both global and domestic. In this study we first find major outliers in the index movements and then further our study to explore particular economic and political events which have repeatedly caused large market movements. The period chosen is post-1991 as that is when the Indian markets opened up to capital inflows post the liberalisation bill.

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- vii. Post 2009, we see a decline in the correlation with the US indices. This is probably due to the relative imbalance in the recovery rate of the two economies and the outflow of FII capital from India.

The Nikkei 225 shows a consistently higher correlation with BSE Sensex than the US stock indices.

#### 6.1 Limitations and scope for further study

As mentioned earlier, our study explains the major movements in the BSE Sensex from 1991 to 2014 by associating outliers to economic and political events. Though we have classified the events first into five major verticals and then into event based categories, still the defined categories are broad enough. Further studies may refine this classification into micro events and study their effect on market fluctuations (i.e. outliers). Also, each major event can be further studied by ranking them along various parameters such as the level of government at which the decision was taken, the geographical spread or coverage of the event and then associating them with intensity of market movement. This can enhance our understanding of the empirical relationship between the intensity of events and the percentage change in the market.

We have considered the index as a single and whole unit without considering its micro-structure while analysing the correlation. However, a high correlation between certain sectors within the indices may lead to discrepancies in the results. Further study is needed to explore such phenomena.

### Notes

- 1 The five major verticals in the study are defined as:
  - i. Indian Political: These include events occurring in the political scenarios covering both the state and centre. It includes elections, changes in the government, appointment of persons to political positions etc.
  - ii. International Political: These include political events happening outside India.
  - iii. Indian Economic: These include fiscal measures undertaken by the government, major scams and crisis, Budget announcements etc.
  - iv. International Economic: These include economic events occurring outside India including FED announcements, Eurozone announcements etc.
  - v. Policy Changes: Economic and financial laws and regulations announced or implemented by RBI and other independent regulatory institutions such as SEBI, etc.
- 2 Refers to the Asian Financial crisis of 1997 which started with the collapse of the Thai Baht and spread to most of the South East Asian economies.
- 3 Refers to the stock market bubble built up over 1997-2000 because of investments in internet based companies leading to a crash on 10 March, 2000
- 4 The five event based categories are defined below. We have tried to keep them specific to narrow down the field of analysis.
  - i. National Political: Refers to political events related to the central government only
  - ii. Budget: Refers to events related to the announcement of the national budget
  - iii. RBI announcements: Includes events related to changes in CRR, SLR, repo rate and other announcements made specifically by the RBI
  - iv. Fed announcements: Refers to announcements made by the US Fed
  - v. Rumours/sentiments/expectations: Refers to events where the investor sentiment or a rumour in the market caused the outlier. We identified the keywords from the study of the news items around the time of the outlier.

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