

Review Form 1.6

Journal Name:	Asian Journal of Probability and Statistics
Manuscript Number:	Ms_AJPAS_88569
Title of the Manuscript:	Stochastic Modelling for the Analysis and Forecasting of Stock Market Trend Using Hidden Markov Model
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<https://www.journalajpas.com/index.php/AJPAS/editorial-policy>)

PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments		The authors are highly thankful to the esteemed editor and respected reviewers for their good and valuable comments and suggestion for the manuscript in order to make it in the form of publication to "Asian Journal of Probability and Statistics". We have considered all the comments in the manuscript and modified the paper as per the same.
Minor REVISION comments	The summary of the findings of the study should show in the abstract.	With respect this good comment, the abstract of this manuscript is revised as per the reviewer's comment and the main and important findings of the study are highlighted in the abstract of the revised paper. That is really a nice suggestion for us to make more and clear understanding for the readers. We are extremely thankful for reviewers for helping us to make the manuscript in the form of publication.
Optional/General comments	<p>Introduction: This paper dealt with the development of HMM for a proper understanding of finance variables in the stock market. Relationships between and within both the changing share values of Housing Development Finance Corporation Bank Limited (HDFC Bank Ltd) as visible/observed states influenced by the indicators of S&P Bombay Stock Exchange Sensitive Index (Sensex) as invisible/influencing states were formulated. Stochastic modeling with hidden Markov models is carried out for exploring various parameters of the model. Deducing mathematical formulation of initial probability vector, transition and observed probability matrices were carried out with the empirical data sets. Furthermore, an attempt was made to estimate the long-run steady-state behavior of both the SENSEX and HDFC Bank share prices. Mathematical derivations for all the required statistical measures are obtained using the method of moments and the method of moment generating function (MGF), probability generating function (PGF) and the characteristic function (CF) for the proposed probability distribution. The empirical analysis, findings and conclusions were consistent.</p> <p>Strength: The paper is well written. The mathematical derivations are logic and thorough. The analysis and the findings were consistent.</p> <p>Weakness: The summary of the findings were not shown in the abstract.</p>	<p>Thank you for the appreciation regarding the strength of the paper and highlighting the weaknesses as well. With respect to this comment, we have modified the paper as per your suggestions and good comments. The moral and summery are added to the abstract section in the highlighted sentences so that it could be easy for the readers to grasp what is exactly done in this study.</p> <p>We are highly grateful for your nice comments for making the paper more authentic and interesting to readers than before.</p>

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	(If yes, kindly please write down the ethical issues here in details)	All the authors declare, no ethical issues or conflict of interest in this manuscript.