



SDI Review Form 1.6

Journal Name:	British Journal of Mathematics & Computer Science
Manuscript Number:	2014_BJMCS_12415
Title of the Manuscript:	Bayesian Optimal Filtering in State Space Models: Empirical Example from Econometric Analysis of Economic Time Series Data
Type of the 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:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)

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)
<u>Compulsory</u> REVISION comments		



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<u>Minor</u> REVISION comments	The expression “state space model” seems to be established for a long time. However, in the general theory of modeling, there is absolutely no surprise that a system can be in some state. Set of all states generates the state space. Can you describe the state space of your system? For me, there is a number describing a state and a number of the observation. Both state variables are derived recurrently from their recurrent equations. Try to have a look on so called DEVS formalism. Language: use a spell checker. Conclusion: This paper applies the wide-spread Kalman filter on time series. The idea is not original. The text is far from to be rigorous. There is a big disbalance between the evident authors' knowledge and the resulting form of expressing themselves. The paper must be restructured.	Thanks. The paper has been restructured. The state space system under consideration has been described.
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<u>Optional/General</u> comments	I like the paper since the paper is well based on a huge amount of literature and the authors seem to understand their topic well. The paper does not highlight its main contribution, which is - as I suppose - in application of the Kalman filter in processing of econometric data. Be more explicit in highlighting your contribution! As the ground of the paper is good, I recommend the authors to structure their text in more formal manners: proper formal definitions, proper description of the data processing itself and mainly - rewrite your demo into a standard case study. The paper completely lacks a description of a motivation. The introduction should give a motivation for processing the econometric data, using the Kalman's method and mainly: you must say what you expect to be the result. There must be some sort of a definition saying: the series is filtered (somehow) well if ... Section 3.3 is not sufficient. Section 3.4: this is supposed to be the core of the paper, that is the place where I would expect the proposed method to be defined and commented step by step. Do you really think	Thanks. This aspect has been addressed in the paper. We have highlighted our contribution and motivation. We have modified the way the result was presented and the obvious steps taken in our analysis.
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	that a reader will be able to re-implement your method? I guess not. Section 4 (the demo): this part demonstrates the weaknesses of the paper in the most visible way. I disagree with the claim that "it can be seen in fig 2 that our model performs well ...". When you do not define how the "good result" looks like, then you cannot evaluate a result to be good. The blue line should be a forecast? Sure? I made some market forecasting models (based on different techniques) and the word "forecast" means a prediction of something future. Is the forecast a prediction of the next year from the current state (in recursive meaning), so that the well working forecasting just follows the historical time series? Would you give a forecast for some few coming years? I recommend to accept this paper after major revision.	From literature, it is not feasible to give a forecast for more than one or two step ahead (West and Harrison 1997). Thanks!
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