



SDI Review Form 1.6

PART 1:

Journal Name:	British Journal of Economics, Management & Trade
Manuscript Number:	2013_BJEMT_4185
Title of the Manuscript:	Technoeconomic Projections with Artificial Neural Networks Using an Ensemble of Sparsely-sampled Bootstrapped Data

General guideline for Peer Review process is available in this link:

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

- This form has total 7 parts. Kindly note that you should use all the parts of this review form.



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PART 2: 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	In this paper a new resampling-based strategy is proposed to train Artificial Neural Networks (ANNs). The proposed method is best-suited in cases in which few data items are available. Sparse bootstrap datasets are generated from available data and ANNs are trained with that, obtaining consisting results in terms of the forecasting ability. The authors are dealing with an important issue in the area of artificial neural networks that consists is how to enhance the prediction with few samples. Moreover, the energy application is very interesting. However I have several major comments: 1. Many resampling methods are expected to work properly in applications in which this paper is advocated. In this regard, the authors should: a. Improve the state of the art in the introductory part (sections 1, 2, and 3) in order to include topics related to resampling-based methods. b. Analyze the advantages and differences of the proposed strategy (with respect to other	THANKS! 1 (a) Section 4 and Section 5 of the Revised MS: Rewritten for clarity (b) Relevant details furnished: see Revised MS Lines 542-571



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	resampling methods). 2. Page 7, line 270. Authors pointed out that B bootstrapped datasets are constructed and the ANNs are trained B times. This procedure is not really clear. Can authors explain this better? How a single ANN is trained with B datasets? In general there is a lack of information about several user-defined parameters used in the experiments. 3. Authors should perform an experimental comparison between the proposed method and other existing techniques. It is not acceptable to report just the results obtained with the proposed strategy for a regular paper. It should be desirable to use more datasets in simulations. I suggest comparisons with at least a single neural network and a spline. 4. The authors should improve the quality of the results with some metrics as for example Mean Square Error, Pearson's correlation coefficient and others. They should apply Cross Validations, several data sets or experimental runs. I suggest to use a synthetic experiment to study the capabilities and the limits of the proposed method. Because bootstrapping methods are being applied, the authors can obtain a confidence interval of the predictions.	2. Necessary details are furnished in the revised MS: See Lines 502-541 See revised pseudocode: Line 628 ... 3. Relevant details presented in the revised MS: See lines 984-1032 4. Relevant details presented in the revised MS: See lines 1034-1043
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	5. The method to generate new samples works well in one-dimension, however is not clear how new interpolated samples are generated under a multidimensional scheme. 6. The authors ask themselves three important questions between lines 225 and 229. However, the experiments are not conclusive to answer these questions. 7. The proposed method seems very prone to noise, outliers and inadequate sampling (Nyquist theorem). I propose to discuss further or show some examples to confirm or reject this remark.	5. See lines 979-982 Revised MS 6. MS revised thereof to include details as in: Lines 1051-1064 7. Countermeasure on noisy considerations as a result of 'a sample substituted with a replacement' etc. in terms of Shannon-Nyquist framework is now better explained in Section 4.
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Minor REVISION comments	In general, the paper is well written and well structured. However some terminologies are not clear: for example Technoeconomic, ex ante and ex post predictions. Check the references, some authors are missing and some links are wrong.	Relevant explanatory definitions and details are furnished across the revised MS Necessary corrections are made.
Optional/General comments		The authors hereby duly acknowledge the critical review and constructive criticisms offered by the Reviewer II. Thank you!