



INTERNATIONAL CONFERENCE ON COMPETITIVENESS EVALUATION AND CONCEPTUAL ASPECTS

Centrum Católica, Graduate School of Business, Pontificia Universidad Católica del Perú, Calle Daniel Alomía Robles 125 - 129, Los Álamos de Monterrico, Santiago de Surco, Lima 33 – Perú

Conference Paper Guidelines

Paper Format Instructions

These notes are to be used by authors of papers so that they can use a consistent style and can visualize how their paper will look when printed. To minimize the differences between formats of different papers, and thus to provide a professional appearance to the Proceedings, these editorial instructions need to be followed closely.

The following instructions and templates pertain to all the papers to be submitted to International Conference on Data Envelopment Analysis and It's applications to management 2011.

Additional Guide Lines: The final electronic version must follow all Formatting Requirements in addition to the following guidelines:

- Submit an editable version of the manuscript in Word 2003/2007
- Use automatic word-wrap (soft returns) consistently for sentences within a paragraph and the enter, or return, key (hard return) at the end of a paragraph.
- Do not use tabs with text (i.e., do not indent blocks of text), except to begin a new paragraph.
- Use consistent spacing throughout the document.
- Do not use Word's automatic footnote capability.
- Do not link references or figures.
- Paper should be in Single Column with single line spacing.
- Do not number pages, or include running headers or footers.

Presentation of Papers

- All papers will be grouped as far as possible into appropriate sessions to facilitate discussion on the various topic areas.
- All plenary session timeslots are 30 minutes which includes introduction by the session chair and question & answer time. Concurrent session timeslots will be a maximum of 20 minutes which includes question and answer and changeover time.
- Speakers should rehearse their papers to ensure that they can cover their main points in the allocated time.
- Speakers should not read their published paper word for word - use notes instead.
- All audio visual requirements will be available to enhance each speaker's presentation.
- Speakers should confirm with the conference organizers prior any special needs in relation to the technical aspects of presenting their paper.

Paper Format for the Proceedings of the International Conference on Data Envelopment Analysis and Its Applications to Management 2011

CHARLES VINCENT

CENTRUM Católica, Graduate School of Business, Pontificia Universidad Católica del Perú, Calle Daniel Alomía Robles 125 - 129, Los Álamos de Monterrico, Santiago de Surco, Lima 33 - Perú
E-mail: vcharles@pucp.pe

&

MUKESH KUMAR

CENTRUM Católica, Graduate School of Business, Pontificia Universidad Católica del Perú, Calle Daniel Alomía Robles 125 - 129, Los Álamos de Monterrico, Santiago de Surco, Lima 33 - Perú
E-mail: mkumar@pucp.pe

ABSTRACT: Genetic algorithm (GA) approach is developed for solving the P-model of chance constrained data envelopment analysis (CCDEA) problems, which include the concept of “Satisficing”. Problems here include cases in which inputs and outputs are stochastic, as well as cases in which only the outputs are stochastic. The basic solution technique for the above has so far been deriving “deterministic equivalents”, which is difficult for all stochastic parameters as there are no compact methods available. In the proposed approach, the stochastic objective function and chance constraints are directly used within the genetic process. The feasibility of chance constraints are checked by stochastic simulation techniques. A case of Indian banking sector has been presented to illustrate the above approach

Keywords: Data envelopment analysis; satisficing; stochastic efficiency; stochastic simulation genetic algorithm

1. INTRODUCTION

The body of the paper begins with the Introduction. In the Introduction, state the purpose of the paper, or author’s aim, brief review of current literature, so that the reader will have a clear concept of the objective(s).

Following the introduction, text should be organized into logical parts or sections that describe the problem, the means of solution, technical data or substantiation and other information necessary to qualify properly the results presented and conclusions drawn. Acknowledgments (where applicable), references follow the conclusions.

2. FORMATTING

2.1 Page size

The page size should be set to Letter (8.5"x11") on "Page Setup" of your Word screen for example. The top and bottom margins are set as (1.0"). The left margin should be set as (1.2") and the right margin should be set as (1.0") with no gutter margin.

2.2 Text

Text must be written using 12-point Times New Roman font in single space with full justification. Use the same font size for all the text in the body of the paper including all the sections and subsections.

2.3 Paper title

The paper title should be 18-point Times New Roman **bold-face** font and should be centered in upper and lower case at the location shown.

2.3.1 Author's names and affiliations

Names(s) of author(s) should be title case, bold, centered and font size 12, Times New Roman with the presenter's name underlined. Affiliation and e-mail address should be centered with font size 12.

2.3.2 Section and subsection heads

Headings and subheadings appear throughout the text to divide subject matter into logical parts and emphasize major elements and considerations. Subsection Headings should be sentence case, and numbered.

2.4 Text citation of references

Within text of article, numerical references **must** be cited in sequential order throughout the body of the text. For example: Ghugal [1], Londhe [2] etc. Reference information should be complete and accurate (including spelling).

2.5 Length

Typical paper should not exceed **10 pages** including tables, figures, appendix, reference, graphs. Use enough material to build an informative message for all delegates so that they can feel comfortable about developing an understanding of your subject. Some delegates may be relatively new to the weed industry, while others may be quite experienced. You need to make your paper read so that all delegates develop an understanding of the topic.

Use tables, graphs/charts, or line drawings where appropriate. Photos must be provided as a separate high quality digital file, as well as within the document.

2.6 Tables

It is often advantageous to place information in a tabular format as shown here. Numbered tables consecutively and use table numbers when referring to a table (Table 1, Tables 2~3

etc.). Use center justification to place the table. Table captions should be written in 12 point Times New Roman font and should be placed above the table.

Table 1: Summary Statistics of Technical Efficiency (TE) in Indian Banking Sector

	2001	2002 ⁺	2003	2004	2005	2006	2007	2008	2009
All Banks									
ATES	0.931	0.920	0.915	0.879	0.884	0.922	0.937	0.935	0.944
ATIES	0.075	0.086	0.093	0.137	0.131	0.085	0.068	0.070	0.059
CV (%)	5.19	5.20	6.22	7.05	8.16	6.92	5.23	5.56	4.69
Public Banks									
ATES	0.924	0.920	0.922	0.873	0.889	0.933	0.941	0.945	0.950
ATIES	0.083	0.087	0.085	0.145	0.125	0.072	0.063	0.058	0.053
CV (%)	4.56	4.63	4.45	5.40	7.30	4.68	3.73	4.81	4.16
Private Banks									
ATES	0.940	0.921	0.907	0.887	0.877	0.907	0.931	0.919	0.936
ATIES	0.064	0.086	0.103	0.127	0.140	0.103	0.074	0.088	0.068
CV (%)	5.93	6.08	8.19	8.91	9.46	9.21	6.92	6.38	5.45
Total No of Banks	33	33	33	33	33	33	33	32	32
Total No of Banks on the Frontier (<i>percentage of total number of banks</i>)	5 (15.2)	4 (12.1)	5 (15.2)	3 (9.09)	3 (9.09)	3 (9.09)	6 (18.2)	6 (18.8)	7 (21.9)
No of Public Banks on the Frontier (<i>percentage of total public banks</i>)	2 (10.5)	2 (10.5)	2 (10.5)	0 (0.00)	1 (5.26)	1 (5.26)	2 (10.5)	5 26.3	4 21.1
No of Private Banks on the Frontier (<i>percentage of total private banks</i>)	3 (21.4)	2 (14.3)	3 (21.4)	3 (21.4)	2 (14.3)	2 (14.3)	4 (28.6)	1 7.69	3 23.1

Note: (i) ATES = Average Technical Efficiency Score, ATIES = Average Technical Inefficiency Score (1-ATES)/ATES, CV = Coefficient of variation (ii) ⁺ indicates that there is significant difference in the pure efficiency scores between public and private sector banks in the corresponding year at 95% level of confidence.

2.7 Figures

Numbered the figures consecutively and uses the figure number when referring to a figure (Fig. 1) or figures (Figs. 2~3). Figures must have a caption (11 point Times New Roman) consisting of an abbreviated number, like Fig. 1, and brief title and should be placed below figure, center-justified.

For good legibility, lines, letters and symbols must be of sufficient weight (or darkness), size and thickness. Avoid using shades. Please be aware of the quality of your figures, illustrations, and photos.

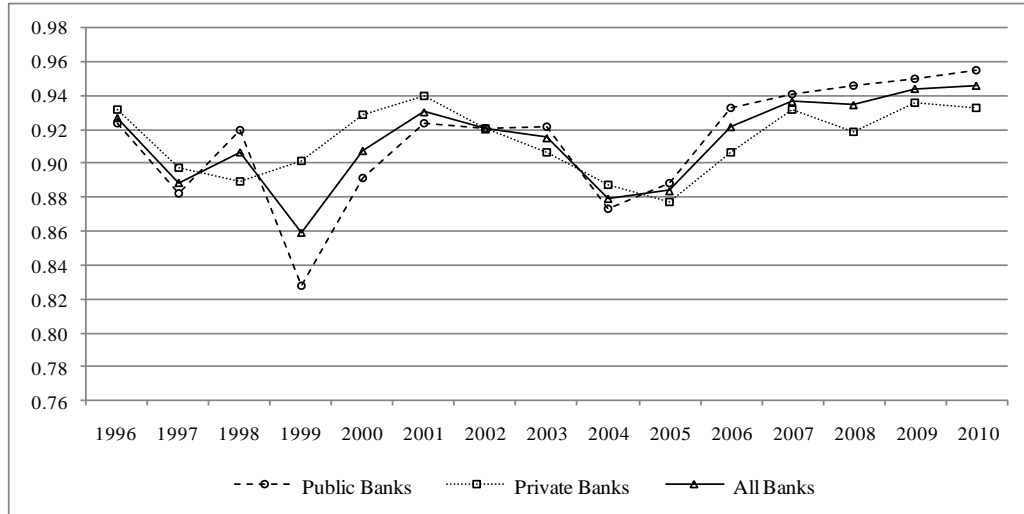


Figure 1: Trend of technical efficiency (TE) in Indian banking sector: 1996-2010

2.8 Units and mathematical equations/expressions/formula

It is desirable that units of measurements and abbreviations should follow the System International (S I). Equations are to numbered consecutively from Eq. (1) to the end of the paper including any appendices. Use the equation number when referring to equations [Eq. (1), Eqs. (5~7)]. Please take care to type equations accurately. Equations should be center-justified. Enclose equation numbers in parentheses and place flush right with right-hand margin of the column.

For example:

$$GR^t(x^t, y^t) = \left\{ (x^t, y^t) \mid x^t \geq \sum_{j=1}^J \lambda_j x^{j,t}; y^t \leq \sum_{j=1}^J \lambda_j y^{j,t}; \lambda_j \geq 0 \right\} \quad (1)$$

$$D^t(x^t, y^t) = \inf \{ \theta / (x^t, y^t / \theta) \in GR^t \} \quad (2)$$

Every symbol must be defined and multiple meanings should be avoided. Numerals and letters must be clearly distinguished. Equations should appear on individual lines and should be numbered. The symbol font may be used when inserting symbols within the body of the text. **Do not place numerical expressions or symbols in text boxes within the body of the text.**

2.9 Footnotes

Optional, but do not use, unless it is absolutely necessary. Footnotes should be 10-point with full justification.

3. RESULTS AND DISCUSSION

.....

4. CONCLUSIONS

A brief summary of your research results should be included in this section toward the end of the paper. Finally, you are responsible for language as editors will not check it. Do a spell and grammar check? This is available in Word.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge the support of the Society for the ABCD, if absolutely necessary (optional).

REFERENCES

The references to the published literature should be listed in numerical format in the following style. References should be primarily in English (Exceptionally, 1-2 references in local languages are allowed) and sufficient to reflect the current state of technology. Citation of the web site information is not encouraged as the site may be disconnected any time.

Journal:

Charnes, A., Cooper, W.W., & Rhodes, E. (1978). Measuring the efficiency of decision making units. *European Journal of Operational Research*, 2(6), 429–444.

Banker, R.D., Charnes, A., & Cooper, W.W. (1984). Some models for estimating technical and scale inefficiencies in data envelopment analysis. *Management Science*, 30(9), 1078–1092.

Kumar, M., & Charles, V. (2009). Productivity growth as the indicator of shareholders' wealth maximization: An empirical investigation. *Journal of Centrum Cathedra*, 2(1), 73–85.

Book:

Zhu, J. (2002). *Quantitative models for performance evaluation and benchmarking: Data envelopment analysis with spreadsheets and DEA excel solver*. Boston: Kluwer Academic Publishers.

Ram Mohan, T.T. (2005). *Privatization in India: Challenging economic orthodoxy*. New York: Taylor & Francis Group.

Book Chapter:

Humphrey, D.B. (1985). Costs and scale economies in bank intermediation. In R.C. Aspinwall & R.A. Eisenbeis (Eds.), *Handbook for banking strategy* (pp. 745–783). New York: John Wiley and Sons.

Kumar, M., & Basu, P. (2004). Decomposition of productivity growth using data envelopment analysis: A case study of Indian industrial machinery. In B. Nagarjuna (Ed.), *Economic reforms and perspectives* (pp. 345–370). New Delhi: Serial Publication.

Conference Proceedings:

Deci, E.L., & Ryan, R.M. (1991). A motivational approach to self. In R. Dienstbier (Ed.), *Nebraska Symposium on Motivation: Vol. 38. Perspectives on motivation* (pp. 237–288). Lincoln: University of Nebraska Press. doi:xxxxxxxxxx

Thesis/Dissertation:

Londhe, R.S. (2007). *Experimental studies in transfer beams for high-rise buildings*. Ph.D. Thesis, Department of Civil Engineering, Indian Institute of Technology, Roorkee, India.