



EWEP A IX

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Analysis of  
Performance in  
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# BOOK of ABSTRACTS

Ninth European Workshop on  
Efficiency and Productivity Analysis

Brussels, June 29 – July 2, 2005

*“Efficiency Analysis for Policy Making”*



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## The Assessment Of Retailing Efficiency Using Network Dea

Vaz, Clara - Camanho; Ana

**Session 8-C Non-parametric Applications**  
Friday, July 1, 2005 11:00-13:00 Room C

The objective of this paper is to develop a methodology, based on Data Envelopment Analysis, to assess and improve the performance of retailing organisations with multiple units (shops). The methodology developed is applied to a case-study consisting of 78 supermarkets to ensure its relevance and applicability to real-world assessments. The Decision Making Units (DMUs) of retailing organisations are complex and often include multiple sub-units. For example, in the case of supermarkets, the shops are usually organised in sections that sell different products (e.g., grocery, perishables, textiles, light bazaar and heavy bazaar). This paper proposes assessing the retailing shops considering the DMU at the section level, whose efficiency levels can be obtained from a comparison with similar sections from other shops. This is consistent with the adoption of a commercial perspective for the assessment, such that the outputs are volume of sales, and the inputs measure the resources available at each section (area, stock and number of references available). This analysis is further refined with the inclusion of an additional input reflecting the value of products wasted in the shop floor, which often represents a significant proportion of the operational costs. This analysis enables the identification of benchmarking sections across all retailing stores under analysis

## Modelling The Efficiency Of European Insurance Companies: A Stochastic Frontier Analysis

Vencappa, Dev - Fenn; Paul - Diacon; Stephen - O'brien; Christopher

**Post-Conference**  
Saturday, July 2, 2005 16:15-17:45 Room A

There is a growing interest and concern about the international competitiveness and efficiency of European insurers. International comparisons of efficiency are crucial as efficiency is a relative concept. It is not possible to define an 'ideal' level of efficiency. Instead, companies have to be compared with the best practice companies in an international market (given the current state of production technology in the industry). In this study, we measure and model the efficiency of the European insurance companies using stochastic frontier analysis. Given the criticisms levelled against the use of a two-stage approach to modelling the effect of exogenous influences on efficiency, we adopt a one-stage approach that simultaneously controls for size-related heteroscedasticity in both error terms, as well as controlling for other exogenous influences on technical efficiency through a model of the heteroskedasticity in the one-sided error term. Contributions to this approach include Reitschneider and Stevenson (1991), Huang and Li (1994) and Battese and Coelli (1995) amongst others. The study draws on a panel from the Standard's & Poor's Eurothesys data set for the period 1995 to 2002. These cover life, non-life and composite insurance businesses for 16 major European countries and provide technical and non-technical accounts at year-end.