

# REVISTA ESTADISTICA

Vol. 52 – Nros. 158-159 – 2000

## Contents

### **The Umvue for Mean and Right-Tail Probability in a Power-Function Distribution**

*M. Masoom Ali<sup>1</sup>, Jungsoo Woo<sup>2</sup>, and Gi-Ern Yoon<sup>2</sup>*

*<sup>1</sup>Ball State University, USA*

*<sup>2</sup>Yeungnam University, South Korea*

#### **ABSTRACT**

We derive the UMVUE of mean parameter and right-tail probability for a power-function distribution and their respective variances. We then compare the mean square errors of MLE, MME and UMVUE of the mean parameter and the right-tail probability.

## On Structural Comparative Calibration with auxiliary information

*Heleno Bolfarine<sup>1</sup>, Manuel Galea<sup>2</sup>*

*<sup>1</sup>Universidade de São Paulo, Brasil*

*<sup>2</sup>Universidad de Valparaíso, Chile*

### ABSTRACT

The problem of assessing the relative calibrations and relative accuracies of a set of  $p$  instruments, each designed to measure the same characteristic on a common group of  $n$  individuals is considered. Two models have been proposed in the literature to analyze data from such experiments. One, which is called the regression model version, was introduced by Barnett (1969) and the other, the factor analysis version, was studied by Theobald and Mallison (1978). We discuss in this paper how to incorporate into the model introduced by Barnett (1969), extra information provided by a covariate related to the variable being measured. In the case when  $p = 2$ , the approach provides an alternative way to instrumental variable estimation in measurement error models. In this extended model, the EM algorithm, which typically is simple to implement and computationally inexpensive is used to estimate the unknown parameters. By deriving the information matrix for the maximum likelihood estimators, large sample inference is easily obtained for the extended model. The approach is illustrated by reanalyzing a data set which is presented in the literature.

# Discrete Mixture Alternatives to Dynamic Hierarchical Models

*Eliane A. Camargo<sup>1</sup>, Dani Gamerman<sup>1</sup>*  
*<sup>1</sup>Universidade Federal do Rio de Janeiro, Brasil*

## ABSTRACT

This paper aims using mixtures of distributions to circumvent identification problems arising in hierarchical trend models. The idea is initially applied to the 1<sup>st</sup> order polynomial model where the problems are highlighted. It is later on extended to linear regression models and  $K$ -th order polynomial models. The procedure is compared with other mixture approaches in empirical studies previously conducted in the literature. Further extensions are also briefly discussed.

## **Aplicación del Enfoque del Marco Lógico a la Cooperación Internacional en Materia Estadística**

*Luis Cámara, José Luis Cervera<sup>2</sup>, Héctor Sáinz<sup>3</sup>*

<sup>1</sup>*Acciones de Desarrollo y Cooperación, (ADC)*

<sup>2</sup>*Instituto Valenciano de Estadística, España*

<sup>3</sup>*Acciones de Desarrollo y Cooperación, (ADC)*

### **ABSTRACT**

The Logical Framework Approach that has been widely applied in the design of development co-operation programmes, may also be used in the concrete case of Statistical Co-operation. The capacity building of statistical systems in less advanced countries is a pre-requisite for a precise measurement of international development goals. The paper presents the procedures followed by authors in several specific workshops, as well as the results obtained for the Andean Community countries, which might be extended for other developing countries or regions.

## **Limitaciones de las series desestacionalizadas para el análisis de la tendencia del corto plazo: El caso argentino.**

*Estela Bee Dagum, Verónica Beritich, Elena Martínez y Norma Pereira*

Uno de los principales objetivos del ajustamiento estacional es poder inferir la fase del ciclo en la cual se encuentra la economía dentro del año corriente y muy especialmente, identificar el punto de retorno o de giro, es decir el punto en el cuál se pasa de un período de expansión a uno de recesión o viceversa. Para ello es necesario analizar un conjunto de series económicas y sociales estandarizadas eliminándoles la componente estacional conjuntamente con las variaciones por la composición del mes y fiestas móviles cuando éstas estén presentes.

Existen grandes dificultades para la identificación y estimación correcta de las diferentes componentes, particularmente en series fuertemente afectadas por la presencia de casos atípicos como es el caso de las series argentinas.

Estas variaciones atípicas, que quedan en las series desestacionalizadas, impiden ver claramente la dirección de la tendencia en el corto plazo. En tal caso, es necesario utilizar buenos estimadores de tendencia-ciclo que aplicados a las series desestacionalizadas suavicen la presencia de la componente irregular y eliminen el impacto de los casos atípicos. En nuestro estudio hemos realizado un análisis comparativo de los resultados obtenidos utilizando dos estimadores de la tendencia-ciclo: el filtro H13 tradicional y un nuevo estimador desarrollado por Dagum (1996), denominado H13 modificado, aplicados a tres indicadores económicos argentinos de gran relevancia para el análisis de la tendencia de corto plazo.

## **SMOOTHING SEASONAL TIME SERIES FOR CYCLICAL ANALYSIS**

*Nora M. Jarma and Raúl P. Mentz*

### **ABSTRACT**

The main purpose of the paper is to study empirically the effect that has on the dating of business cycles, the selection of the degree of smoothness of the seasonally adjusted economic indicators used for business cycle analysis. Seasonal adjustment is done by the X-12-ARIMA program, while cyclical analysis is done by the procedures developed initially by the Bureau of Economic Research.

We compare the effects on the dates assigned to the cycles, by three alternative procedures of rendering seasonally adjusted series, differing in their degrees of smoothness: two of them come directly from the X-12-ARIMA program, and the third one is a suggestion formulated recently in the literature. The conclusions we arrive at, processing economic indicators for the Argentine economy, are that the selection of the degree of smoothness matters for the purpose of dating the peaks and troughs of the business cycle, both for individual series, and for a coincident index constructed as a weighted average of these indicators.