



International Institute of Forecasters

32nd INTERNATIONAL SYMPOSIUM ON FORECASTING
Boston – USA 24-27 JUNE 2012
Boston Marriott Copley Place



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Eliud Silva
Investigaciones y estudios superiores SC
Avenida Universidad Anahuac numero 46 Colonia Lomas Anahuac
Huixquilucan 52786
Mexico

Dear Eliud Silva:

We would like to thank you for your participation at the 32nd International Symposium on Forecasting, which took place in Boston, USA from June 24-27, 2012. Your presentation entitled “**SEGMENTED SMOOTHING OF TIME SERIES (172)**,” was a welcome addition to the conference program.

ISF 2012 is hosted by the International Institute of Forecasters, the pre-eminent organization for scholars and practitioners in the field of forecasting. The IIF is dedicated to stimulating the generation, distribution and use of knowledge on forecasting in a wide range of fields.

Your participation at the International Symposium on Forecasting (ISF) 2012 was most welcomed. The theme for this year's conference was “Best Research, Best Practice.” The conference took place in Boston, Massachusetts, USA from June 24 through 27, 2012.

We again thank you for your participation!

Sincerely,

Mohsen Hamoudia, IIF President

Pam Stroud

IIF Business Director
Medford, MA USA
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Participación en congreso internacional Dr. Eliud Silva

32nd International Symposium on Forecasting

June 24-27, 2012

Boston, Massachusetts USA

Resumen en Inglés

Smoothing a time series by segments of the data range

Víctor M. Guerrero¹ and Eliud Silva²

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We consider a problem where the analyst wants to estimate a trend with different amounts of smoothness for segments of an observed time series. This need may arise because the series shows different variability regimes. We deal with the two-segment case in detail and extend the results to the three-segment situation. Once the size of each segment is chosen, the procedure produces smooth trend estimates with their corresponding estimated variances, neither of which show discontinuities at the segment joints, as could be expected. To make an appropriate selection of the smoothing constants involved we suggest starting the analysis by fixing a desired percentage of smoothness for the trend. The smoothing constant is derived with the aid of an index that measures the relative precision share attributable to the smoothness component of the underlying statistical model. We illustrate the usefulness of our proposal by means of empirical examples with demographic and economic data.

Resumen en Español

Suavizamiento por segmentos de una serie de tiempo

Víctor M. Guerrero (Departamento de Estadística, ITAM) y Silva Eliud (Escuela de Actuaría, Universidad Anáhuac)

Se considera un problema en el que el analista requiere estimar una tendencia con diferentes cantidades de la suavidad en los segmentos de una serie de tiempo observada. Esta necesidad puede surgir debido a que la serie muestra los diferentes comportamientos de variabilidad. Nos ocupamos con el caso de dos segmentos en detalle y luego se exponen los resultados a la situación de tres segmentos. Una vez que el tamaño de cada segmento se fija, el procedimiento genera estimaciones de tendencias suaves con sus incertidumbres estimadas correspondientes, se supera el eventual problema de discontinuidades en las uniones de los segmentos. Para hacer una selección apropiada de las constantes de suavizamiento, se aconseja iniciar el análisis mediante la fijación de un porcentaje deseado de suavidad para la tendencia. La constante de suavidad se obtiene con la ayuda de un índice que mide la proporción relativa precisión atribuible al componente de suavidad del modelo estadístico subyacente. Se ilustra la utilidad por medio de ejemplos empíricos con datos demográficos y económicos.

Imagen 2

