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AN EMPIRICAL COMPARISON OF TRAMO-SEATS, X-11-ARIMA AND X-12-ARIMA ON SIX ARGENTINE TIME SERIES

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ABSTRACT

This paper presents an illustration of the use of three seasonal adjustment programs in processing six monthly economic series of Argentina. The programs are TRAMOSEATS (Banco de España), X-12-ARIMA (US Bureau of the Census) and X-11-ARIMA (Statistics Canada). On the one hand, both X-11-ARIMA and X-12-ARIMA belong to "the X-11 family", an ad-hoc approach that uses signal-to-noise ratios to choose between a set of twelve moving-average seasonal adjustment filters; on the other hand, TRAMO-SEATS is an ARIMA model-based approach that assumes it is possible to model adequately a whole time series with ARIMA models and outliers or special effects by means of the adaptive Weiner- Kolmogorov filters whose choice is based on statistical decisions (Planas (1997)). X-11-ARIMA is used as a benchmark for a comparison with TRAMOSEATS and X-12-ARIMA.

Six monthly economic time series produced by the Instituto Nacional de Estadística y Censos (INDEC) are seasonally adjusted and compared. The three programs are applied in the automatic mode and options are modified only if the standard adjustment is unacceptable. Different diagnostics are presented, and the distance and the crosscorrelations are used as empirical criteria to compare the seasonally adjusted series.

NOTA SOBRE LA ASIGNACIÓN DE FECHAS A LOS PICOS Y VALLES DE UNA SERIE DE LLUVIAS MENSUALES

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RESUMEN

En este trabajo se estudia el efecto que tiene sobre la asignación de fechas a los ciclos de corto plazo de una serie de lluvias mensuales, la selección del tratamiento destinado a estimar el componente de tendencia. Se analizan tres maneras de estimar la tendencia, dos que provienen directamente del programa X-12-ARIMA de ajuste estacional, y otro que surge de recomendaciones aparecidas recientemente en la literatura. Los resultados muestran la importancia de seleccionar bien el método de estimación de la tendencia y coinciden con lo que se encontró en otro estudio al analizar series de indicadores económicos mensuales y trimestrales, que tienen (en general) menos variabilidad que las series de lluvias.

NOTA SOBRE LA ESTIMACIÓN DEL PIB MENSUAL DE MÉXICO

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RESUMEN

En este artículo se propone una solución a un problema relacionado con el procedimiento de desagregación que se usa para estimar el Producto Interno Bruto (PIB) real mensual de México. La serie desagregada que surge del procedimiento, es de uso interno en el Instituto Nacional de Estadística, Geografía e Informática (INEGI).

El problema consiste en que el Indicador Global de la Actividad Económica (IGAE), que se utiliza como variable auxiliar mensual para generar una serie preliminar del PIB mensual, parece haber perdido al paso del tiempo parte de su capacidad para reflejar el comportamiento del PIB. Esto se aprecia al agregar trimestralmente la serie preliminar mensual, ya que la diferencia entre ella y el PIB real trimestral muestra una periodicidad estacional muy marcada. El componente estacional ha llegado a convertirse en causa de no-estacionariedad de la serie de diferencias y ello viola uno de los supuestos teóricos de la metodología de desagregación utilizada.

La solución definitiva del problema debería considerar la ampliación de la cobertura del IGAE en algunas actividades económicas, particularmente en comunicaciones y servicios, así como la actualización de su año base. Debido a que tal solución está fuera del alcance del presente trabajo, se presenta una solución alternativa factible, aunque provisional, que consiste en incluir variables artificiales para capturar los efectos estacionales y que complementen al IGAE para generar la serie preliminar del PIB mensual. Con esta alternativa, la serie de diferencias entre la serie preliminar agregada trimestralmente y el PIB, admite una representación estacionaria. Ello posibilita la aplicación del método de desagregación tal y como fue diseñado.

CONSISTENT SPECIFICATION TESTING OF ECONOMETRIC MODELS: A PARTIAL SURVEY

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ABSTRACT

Most econometric models are defined in terms of conditional moment restrictions, including the mean regression model, the simultaneous equation model and the quantile regression model among others. When those restrictions are not satisfied, the parameters in the model change their interpretation and economic conclusions based on them may not hold. Even the statistical properties of the estimators may change. There are two main strategies to test conditional moment restrictions. Hart (1997) explains the main contributions in one of the approaches. This paper surveys the main results in the other approach.

CALIBRATION OF THE MEXICAN HOUSEHOLD INCOME AND EXPENDITURE SURVEYS

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ABSTRACT

The objective of this paper is to offer an empirical comparison of nine calibration methods when applied to data from two national Mexican surveys.

We compute the calibrated estimated parameters under nine different methods and compare them with the non—calibrated estimated values. We note that there is a difference between the calibrated and the non—calibrated estimated values, with no noticeable calibration method effect. While the calibrated estimates for the auxiliary variables match their corresponding values in the population and their estimated variance is smaller. For other characteristics, the calibration estimators are not unbiased anymore. One of the methods is generalized least squares for which an explicit solution exists; for the other 8 methods the solution should be found numerically, and sometimes does not exist. All methods produced similar numerical results on average, with some differences in some subpopulations. Hence the chosen method should correspond to the simplest among those that produce calibrated sampling weights that satisfy specific distributional requirements,

and that produce satisfactory estimates for key characteristics of interest, both for the whole population and for subpopulations of interest.

SOME ASPECTS OF SAMPLING HETEROGENEOUS POPULATIONS IN ELECTORAL SURVEYS

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ABSTRACT

There are two aspects to this work. The first is to describe some experiences of electoral surveys conducted in Mexico of which there are mainly four different types: pre— and post—electoral, exit polls and quick counts (a sample of official results to estimate the final result). We concentrate on the description of some problems that arise in the last kind of surveys when they are used for Governor elections. We stress some difficulties that arise due to the socio—cultural heterogeneity of the electorate from State to State. The second aspect is to present two designs that are useful for quick counts performed at the State level. One is probability proportional to cluster size with replacement, *pps*, and other is the simple random sampling without replacement of clusters, *srs*. Both of them are combined with a stratification of the total number of clusters. We evaluate their efficiency in terms of their design effects,

for two criteria of stratification and for up to seven different sample sizes. The bias for the ratio estimator was calculated and considered negligible. All this is done using the results obtained for each voting station in the 1995 Governor elections, in each of three States: Guanajuato, Yucatan and Michoacan. From this comparison we observe that a stratified *pps* has the lowest design effect. However, for large sample sizes, when the sampling fraction is larger than 0.1, the stratified *srs* is slightly more efficient (lower design effect) than stratified *pps* because, for practical purposes, actual sample size is smaller for sample designs with replacement when the sampling fraction is larger than or equal to ten percent of the population.