

## MINISTRY OF FINANCE

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# Methodology for the Seasonal Adjustment of Gross Domestic Product and Its Sectors

- The Ministry of Finance and Public Credit (SHCP), the Bank of Mexico (BM), and the National Institute of Statistics, Geography and Information Technology (INEGI) have decided to standardize the software, the methodology and the statistical criteria that will be applied to the calculation of seasonal adjustments of the Gross Domestic Product (GDP) and its sectors.
- The proposed methodology will be made available with the release of GDP figures at constant prices for the first quarter of 2003 (May 15, 2003)
- The methodological procedures to calculate the seasonal adjustments of the remaining economic indicators published by INEGI will be made available in the near future.
- This initiative reaffirms the commitment of the Mexican authorities to continue enhancing the transparency of economic information and facilitating the decision-making process.

### 1. Background

- The SHCP, BM and INEGI have integrated a Committee aimed at designing a common methodology to calculate the seasonal adjustments that affect Mexican economic time series.
- This initiative is part of the ongoing effort of the Mexican authorities to enhance the transparency of economic information and improve the methodological soundness of macroeconomic statistics.
- At this stage, the Mexican authorities have decided to disclose the methodology that will be applied by SHCP, BM and INEGI to the treatment of seasonal effects of GDP and its sectors: agricultural, industrial and services sector.
- In later stages, the Mexican authorities will disclose the methodological procedures to calculate the seasonal adjustments of the remaining economic indicators elaborated by the INEGI in accordance with a pre-established calendar.

### 2. Motivation

- Monthly and quarterly economic data may be affected by seasonal components. These effects may result, for instance, from climatic conditions and institutional arrangements, which are not directly associated with the time series.
- Those effects distort the statistical analysis of economic series and make inappropriate the comparison between consecutive data, thus limiting the economic analysis to annual comparisons.
- Moreover, even the presence of calendar effects and outliers may mislead any comparisons of economic variables observed in the same month but from different year.
- Therefore, it is crucial to seasonally adjust economic series to be able to make analysis on a monthly or on a quarterly basis.

### 3. Proposed Methodology

- The Committee decided to use the package X12-ARIMA to perform the seasonal adjustment of Mexican economic series.
- The information set to be used includes data up to the fourth quarter of 2002. The estimated parameters of the selected ARIMA model will be kept fixed during the present year and will be estimated again once the GDP figures for the fourth quarter of 2003 are published.
- Amounts used are expressed in millions of 1993 pesos and three decimals will be used in the estimations.
- The Committee will present the seasonally adjusted series in accordance with the aforementioned methodology together with the release of GDP figures for the first quarter of 2003.

- The Committee will also disclose the specification of the selected model for each series, as well as their methodological details.
- It is worth noting that the seasonally adjusted GDP series will be obtained directly from the original series and not from the sum of the seasonally adjusted series of its sectors.

### Concluding remarks

- The standardization and disclosure of the statistical methodology used to perform seasonal adjustments to economic time series reaffirms the commitment of the Mexican authorities to continue enhancing the transparency of economic information and facilitating the decision-making process.