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|  **Seasonal Adjustment Metadata Template [[1]](#footnote-1) (1/2)****GUIDELINES / GLOSSARY** |
| **Group of series: Indices of Industrial Production (9 series)** |
| **Country / Institution** | Statistical Office of the Republic of Serbia |
| **Contact person responsible for SA** | Econometric analyses unit |
| ***General Information***  |
| **Frequency** | Monthly, Series’ length: since January 2000 – and further  |
| **Published series/****relevant series** | ***Kind of adjustment*** | *NACE nomenclature (number of series)* |
| *4 digits* | *3 digits* | *2 digits* | *2 letters* ➀ | *1 letter* ➀ | *MIGs* ➀ | *Total* ➀ |
| ***Raw series*** |  |  |  |  | 3 | 5 | 1 |
| *Only calendar adjusted* |  |  |  |  | 3 | 5 | 1 |
| *Other adjustments (e.g. outliers correction)* |  |  |  |  |  |  |  |
| *Only seasonally adjusted* |  |  |  |  |  |  |  |
| *Seasonally and calendar adjusted* |  |  |  |  | 3 | 5 | 1 |
| *Trend-cycle* |  |  |  |  |  |  |  |
| *Others* |  |  |  |  |  |  |  |
| **Method used** |  X13-ARIMA - Parametric (ARIMA Model Based); Specification: X13-Spec1 (based on RSA5c) with manually defined National calendar of Republic of Serbia (included National holidays, Orthodox Easter, Working Days and Leap Year effects, without testing the impact of the calendar ), ARIMA (0,1,1)(0,1,1) model, Automatic Henderson (13) and Seasonal filters (Msr). |
| **Software used** | **Open source tool JDemetra+, Ver. 2.0.0**  |
| **Publications** |  http://webrzs.stat.gov.rs/WebSite/Public/PageView.aspx?pKey=67 |
| ***Calendar Adjustment*** |
| **Trading/working day adjustment**(both published and confidential series) | ***Kind of calendar effects*** | *NACE nomenclature* |
| *4 digits* | *3 digits* | *2 digits* | *2 letters* | *1 letter* | *MIGs* | *Total* |
| *No effect* |  |  |  |  |  |  |  |
| *Trading/working day* (1 regressor ➂) |  |  |  |  | 3 | 5 | 1 |
| *Moving holidays (Easter)* |  |  |  |  | 3 | 5 | 1 |
| *Leap year* |  |  |  |  | 3 | 5 | 1 |
| *Others* |  |  |  |  |  |  |  |
| **No calendar adjustment** | A priori decision |
| **Calendar used** | National calendar of Republic of Serbia  |
| ***Other Pre-Adjustment*** |
| **Detection and replacement of outliers** | Automatic detection of outliers in the model. Critical value and automation of outlier detection is not reported. |
| ***Seasonal Adjustment*** |
| **Model/filter selection** | ***Type*** | *NACE nomenclature* |
| *4 digits* | *3 digits* | *2 digits* | *2 letters* | *1 letter* | *MIGs* | *Total* |
| *Manual* (0,1,1)(0,1,1) |  |  |  |  | 3 | 5 | 1 |
| *Automatic* |  |  |  |  |  |  |  |
| **Seasonal adjustment decomposition** | ***Type*** |  |
| *Additive* |  |  |  |  |  |  |  |
| *Log-additive* |  |  |  |  |  |  |  |
| *Multiplicative* |  |  |  |  | 3 | 5 | 1 |
| *Other* |  |  |  |  |  |  |  |
| ***Aggregation*** |
| **Direct adjustment / indirect adjustment via components** | SORS uses direct adjustment. |
| **Consistency amongst the different levels of breakdown** | SORSdoes not do aggregation of seasonally adjusted data from lowest to higher levels. SORS only uses direct adjustment.  |
| **Time consistency** **(monthly/annual or quarterly/annual)** | SORS does not perform aggregations from lower to higher levels. |

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|  **(2/2)** |
| ***Revisions*** |
| **Model, filters, outliers, calendar regressors** **re-identification** | The model, outliers, filters and regression parameters are re-identified, while the respective parameters and factors are re-estimated every time when new or revised data become available. Partial Concurrent Adjustment – Parameters (every a year). |
| **Parameters / factors re-estimation** | Partial Concurrent Adjustment – Parameters (every month) |
| **Horizon for published revisions** | Whenever the original (raw) data are reviewed from the beginning of the series (as well as changes in definitions, sample plans, etc.) we always revise adjusted series. |
| ***Quality Indicators*** |
| **Quality measures used** | We use a set of quality measures for seasonal adjustment and diagnostics (Main results, Charts, Pre-processing, Decomposition (X11) and Diagnostics (Seasonal tests, Spectral analysis and Sliding Spans)). In addition, we always compare adjusted data with the previous month adjusted data. |
| ***Availability Of Structural Metadata*** |
| **Links to methodological reports** | None |
| **Links to national calendar used**  | None |
| **Availability of detailed information sufficient to allow users to replicate the process** | This type of information is not publicly available. The users can submit a request to be provided with this information.  |

1. [*ESS Guidelines on Seasonal Adjustment*, 2015 edition.](http://ec.europa.eu/eurostat/documents/3859598/6830795/KS-GQ-15-001-EN-N.pdf) [↑](#footnote-ref-1)