Jdemetra +
Lesson learned on direct vs indirect SA tool on an Italian case study

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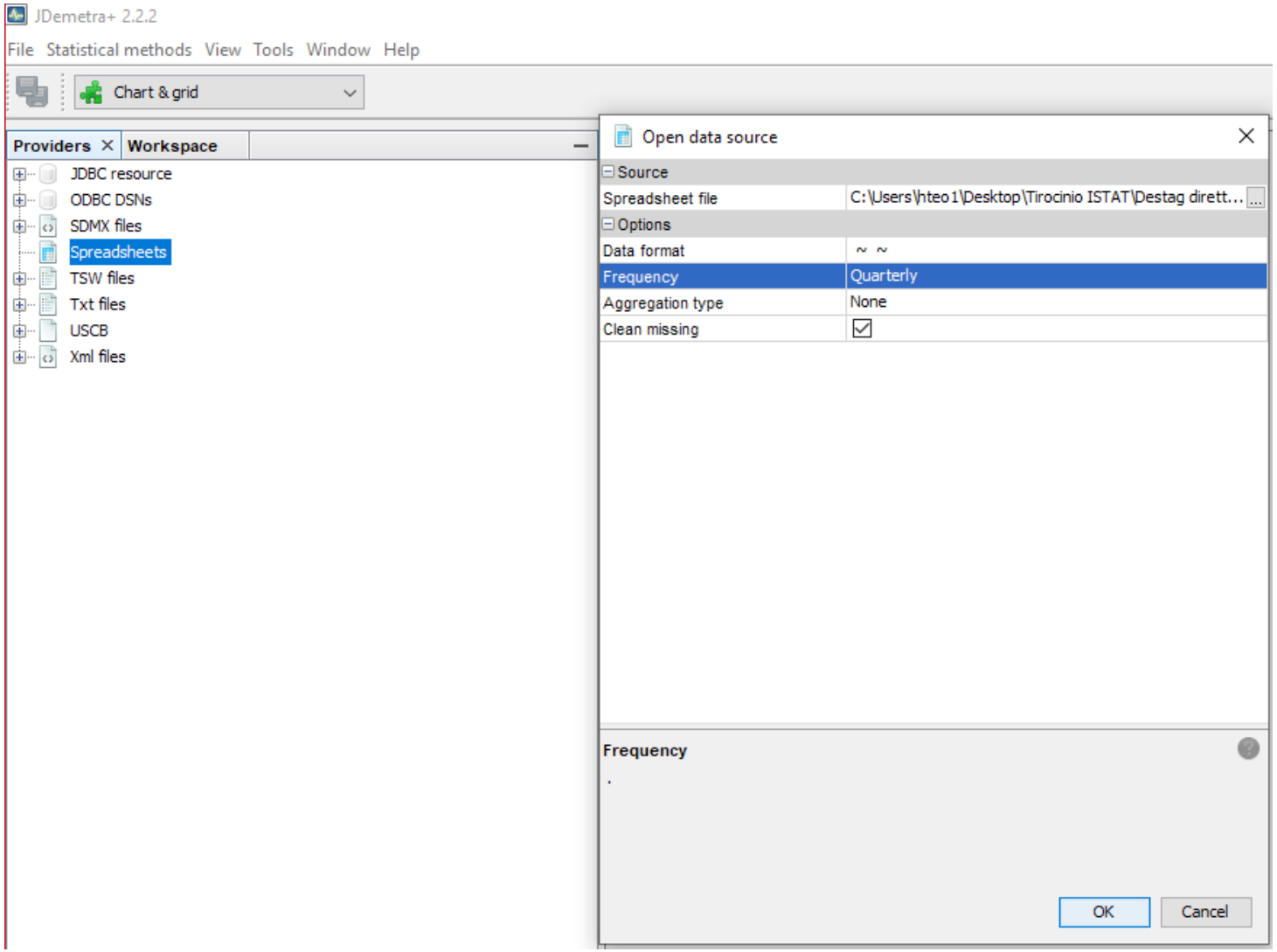
Contents

- Uploading data in Jdemetra+
- Applying the direct vs indirect SA tool
- Comparison of the two approaches by means of statistical and empirical criteria.
- Final considerations

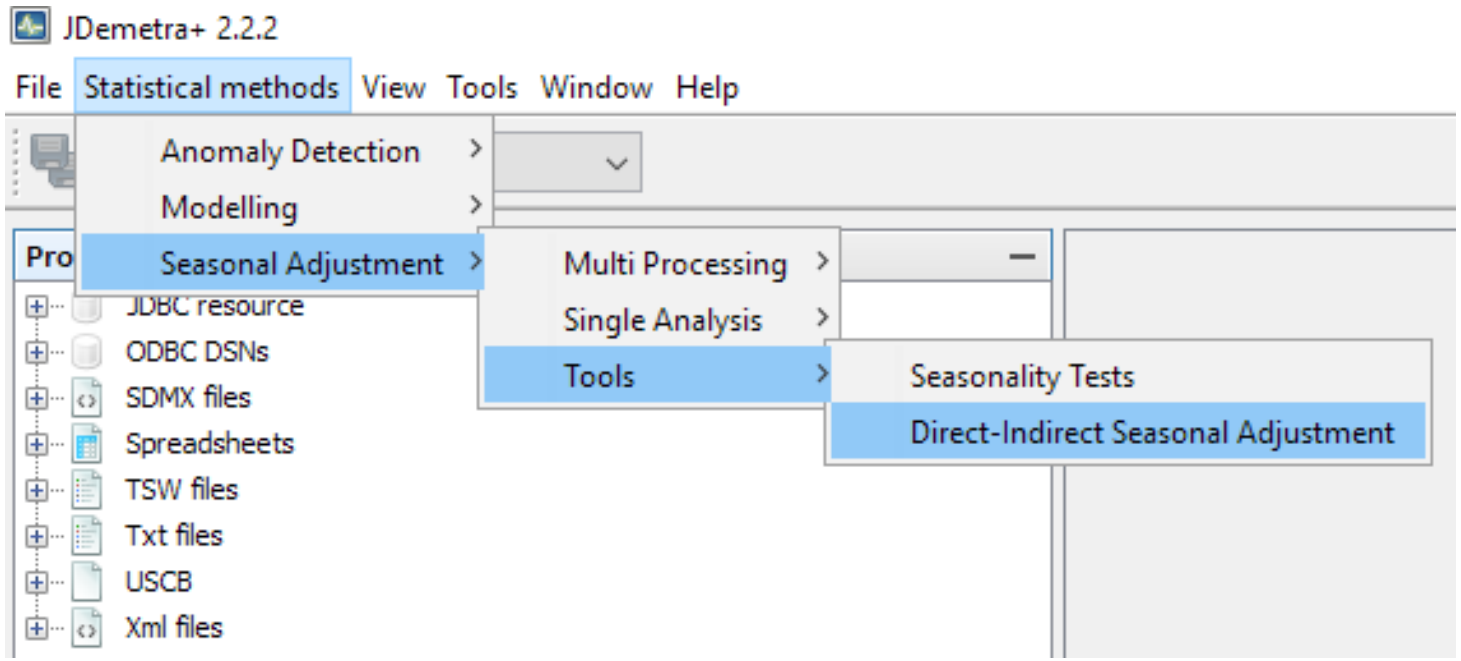
Uploading data

- Several possibilities to open data source.
- Here the choice is an Excel spreadsheet that contains quarterly data for general government revenues
- The data referred to: Taxes on production and import, Taxes on income and wealth, Social contributions, Other current revenues, Capital taxes and Other capital revenues

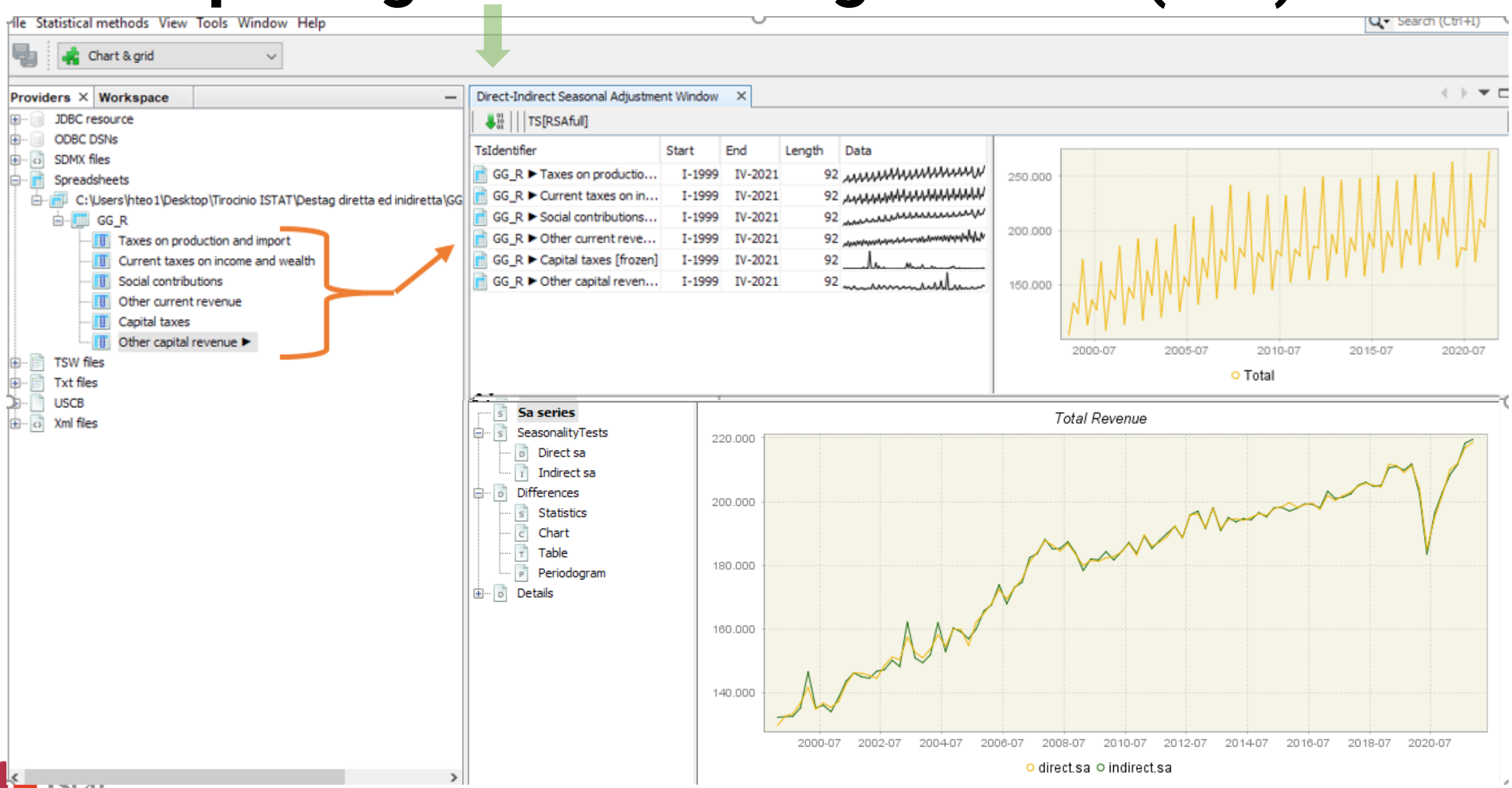


Opening and launching the tool (1/2)

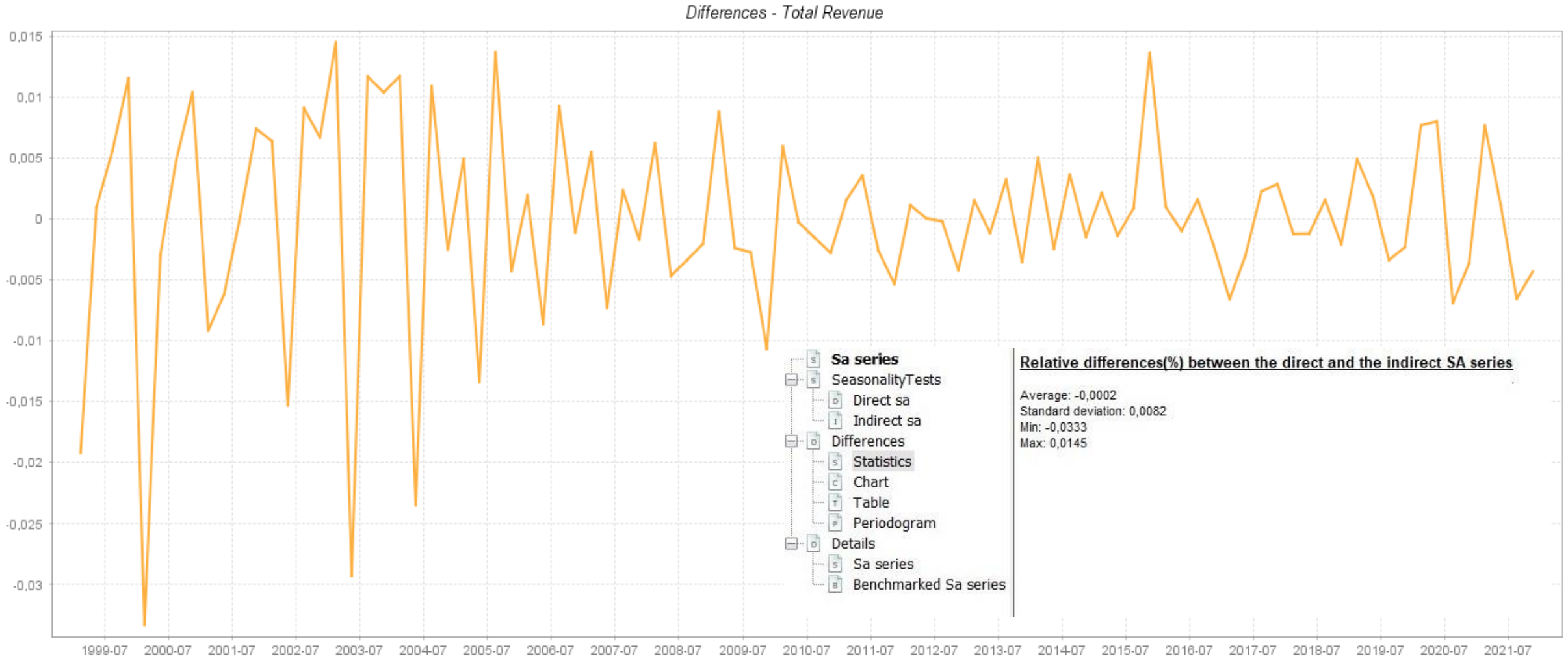
The Direct-Indirect Seasonal Adjustment tool enables for comparison the results from direct and indirect seasonal adjustment performed for the aggregated series.



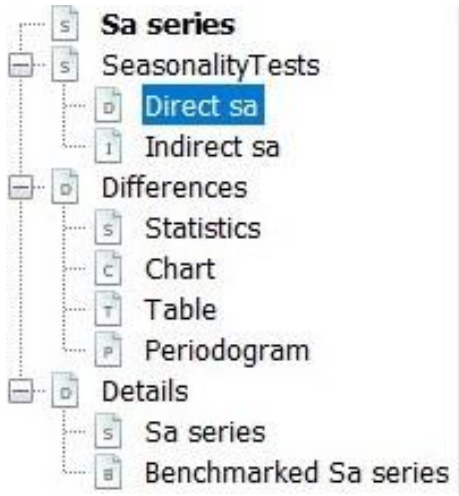
Opening and launching the tool (2/2)



Focus: Differences Chart



Seasonality tests on the results

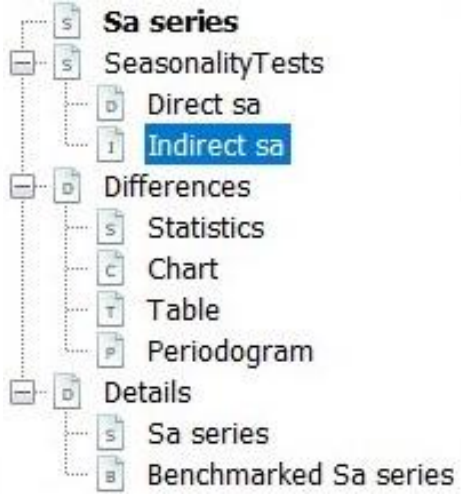


Seasonality tests on the direct sa series

Summary

Data have been differenced and corrected for mean

Test	Seasonality
1. Auto-correlations at seasonal lags	NO
2. Friedman (non parametric)	NO
3. Kruskall-Wallis (non parametric)	NO
4. Spectral peaks	NO
5. Periodogram	NO
6. Seasonal dummies	NO
6bis. Seasonal dummies (AMI)	NO



Seasonality tests on the indirect sa series

Summary

Data have been differenced and corrected for mean

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Jdemetra+ offers seven tests researching residual seasonality in the SA series. For both approaches, the tests don't find any further seasonality.

Conclusions

1) From the tool results, both the approaches appear to be good

2) It looks like an example of irresolution in decision-making

3) But, from a graphical point of view, we can see that for the single series that composes the revenue the Seasonality is very different and such series reveal picks with an economic significance

4) The choice of the seasonal adjustment method is given to the user, based on the aims of the analysis

5) In this case, is preferable to adopt an indirect SA method because through this method we can analyze in depth the single aggregate understanding and highlighting the importance and the relative weight of the components in the total

References

- Grudkowska S., JDemetra+ Reference Manual Version 2.2,Narodowy Bank Polski, Department of Statistics (2017) .
- Eurostat, ESS guidelines on seasonal adjustment, www.ec.europa.eu, (2015)

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