

GROUP WORK INSTRUCTIONS

Group work is mandatory and will constitute **30% of the final grade**. It should be sent by **November 30st** by e-mail do the instructor. A printed copy should be handed in before or at the actual group presentation.

The work will be graded both by the paper content and the oral presentation and discussion. In case presenters' performances at the presentation are very uneven, different grades could be assigned to the different group members.

The written report should have a maximum of **10 pages**, including appendices, tables, figures, references, and possible table of contents. It should be written in standard format, with minimum font size 11 and minimum line spacing of 1.5.

We are sure that no form of plagiarism will be committed, and you should know that it would result in group work cancelation and severe inquiry according to the law and to ISEG regulations.

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Choose one macroeconomic/financial time series to study. You must include detailed information about your source. The time series should have some form of seasonality and a reasonable length (at least 50 or more observations). Leave out of the analysis a small number of final observations to be able to perform an ex-post forecasting of these observations (for instance 4 data points for quarterly series, 12 points for monthly series and so on).

Perform standard analysis of your series including discussion of its main characteristics (trend, stationarity, seasonality, autocorrelation).

Operate the necessary and adequate transformations (Box-Cox, differencing, trend-fitting...).

Perform standard ARIMA Box-Jenkins analysis with the estimation sample used. With the final model(s) selected, predict the observations you have left for out-of-sample ex-post forecasting and compute some measures of model(s) predicting accuracy.

Complement your analysis by using an appropriate exponential smoothing method and compare the results and the forecasts.

Justify each step of your operations and analysis. Explain the choices you make at each step and the reasons for choosing the models you have chosen. Present the necessary tables, graphs and formulas and explain what they display.

Add all the necessary references.