

GROUP WORK INSTRUCTIONS

Group work is mandatory and will constitute **30% of the final grade**. It should be sent by **May 18th** by e-mail do the instructor and to the *assigned discussant group*. A printed copy should be handed in before or at the actual group presentation.

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

You will have *exactly* 10 minutes for the presentation and we will reserve approximately other 10 minutes for the discussion.

The written report should have a maximum of **10 pages**, including cover, 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 know that it would result in group work cancelation and severe inquiry according to the law and to ISEG's 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, preferably 200 or more). Leave out of the analysis and of the estimation sample a small number of final observations to be able to perform an *ex-post forecasting* of these observations (for instance 4 to 8 data points for quarterly series, 12 to 24 points for monthly series and so on).

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

Operate the necessary and adequate transformations (Box-Cox, smoothing, differencing, trend-fitting...). Select at least two reasonable competing models for estimation and forecasting.

Perform standard ARIMA Box-Jenkins analysis with the estimation sample used. With the final models selected, predict the observations you have left for out-of-sample for ex-post forecasting and compare models' predicting accuracy, with adequate measures.

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.