SUMMATIVE ASSIGNMENT

In this assignment you will have to examine the short-run and long-run dynamic relationships among national stock market indices.

For four countries of your choice, download enough data (get the maximum number of observations) on each country's national stock market index quoted in U.S. dollars. Transform the data in the natural logarithms. Use the transformed data to answer the following questions.

(i)   Compute and discuss the descriptive statistics of your four time series (logarithms of four national stock market indices) and their first differences. Plot the series in levels and in first differences, and describe patterns.

[15 marks]

(ii)   Plot the ACF and PACF for each of the series in levels and in first differences. Describe the patterns and comment on the implications for the further analysis of these series.

[15 marks]

(iii)   Use appropriate unit root tests to test if these four time series (logarithms of national stock market indices) and their first differences are stationary. Explain the test procedure, report the test statistics and the appropriate critical values (at 5% significance level) and discuss the results. Depending on the outcome of the test procedure, choose EITHER part (iv.a) OR part (iv.b) for the next step, and explain your choice.

[20 marks]

(iv)   (a) Use the Box-Jenkins procedure to estimate a VAR model for the four variables. Explain the choice of the model specification and the model diagnostics tests. Report the results of Granger causality tests, the impulse response functions, and the variance decomposition. Do your results depend on the ordering of the variables in the VAR system? Why or why not? Compare and discuss the results from VAR estimation with two different orderings. Which ordering would you recommend and why?

[40 marks]

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(v)   (b) Test for cointegration among the national stock market indices using Johansen's tests. Explain the test procedure, report the test statistics and the appropriate critical values (at 5% significance level). If you have found one or more cointegrating relations, estimate the long-run relationships (i.e., the cointegrating relations) and the Vector Error Correction Model. Otherwise, estimate the short-run relationships among the variables using an appropriately specified VAR model. Discuss the results.

[40 marks]

(vi)   Find three published journal articles on the relationship among national stock market indices (not necessarily the same as in your work) and discuss/compare your results to those obtained in these papers.

[10 marks]

Overall word limit, 2500 words maximum.

The word count should:

- *Include* all the text, including title, preface, introduction, in-text citations, quotations, footnotes and any other item not specifically excluded below.

- *Exclude* diagrams, tables (including tables/lists of contents and figures), equations, executive summary/abstract, acknowledgements, declaration, bibliography/list of references and appendices. However, it is not appropriate to use diagrams or tables merely as a way of circumventing the word limit. If a student uses a table or figure as a means of presenting his/her own words, then this is included in the word count.

Examiners will stop reading once the word limit has been reached, and work beyond this point will not be assessed. Checks of word counts will be carried out on submitted work, including any assignments or dissertations/business projects that appear to be clearly over-length. Checks may take place manually and/or with the aid of the word count provided via an electronic submission. Where a student has intentionally misrepresented their word count, the School may treat this as an offence under Section IV of the General Regulations of the University. Extreme cases may be viewed as dishonest practice under Section IV, 5 (a) (x) of the General Regulations.

Very occasionally it may be appropriate to present, in an appendix, material which does not properly belong in the main body of the assessment but which some students wish to provide for the sake of completeness. Any appendices will not have a role in the assessment

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– examiners are under no obligation to read appendices and they do not form part of the word count. Material that students wish to be assessed should always be included in the main body of the text.

YOUR COMPLETED ASSIGNMENT <u>MUST</u> BE SUBMITTED TO DUO NO LATER THAN 2PM ON 2 MAY 2019.

MARKING GUIDELINES

Performance in the summative assessment for this module is judged against the following criteria:

- Relevance to question
- Organisation, structure and presentation
- Depth of understanding
- Analysis and discussion
- Use of sources and referencing
- Overall conclusions

Students are strongly advised to use Arial font size 11 for their assignments. A template assignment is provided for students and it is recommended for students to use this.

The word count should include all the text (plus endnotes and footnotes), but exclude diagrams, tables, bibliography, references and appendices. Guidance on referencing can be found in your Assessment handbook under 'Things you Need to Know' on DUO.

The electronic version of the assignment which you submit on-line should *INCLUDE* all appendices.

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PLAGIARISM and COLLUSION

Students suspected of plagiarism, either of published work or work from unpublished sources, including the work of other students, or of collusion will be dealt with according to Business School and University guidelines.

The electronic copy of your assignment on DUO which will be put through the plagiarism detection service.

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