Data Analysis Groupwork (Continuous Assessment component, 50%)

This is a teamwork piece of assessment which requires you to demonstrate your understanding of statistics as well as your abilities to analyze and interpret data. Each student will be randomly assigned to a group through Brightspace: I aim for each group to be of three students however, adjustments may be required based on the total number of students in the cohort. In that case, I will create some groups with two students and take this into account

1. What is the type of data that you shall use?

You shall use freely and publicly available secondary data (i.e., data that have been already collected by other agencies and that these agencies allow you to use – so always check the terms of use). You are not allowed to collect data yourself: this is not advisable for an assignment and, most importantly, you will need ethical approval from the University. Hence, just look for reliable secondary data sources. An example is the website of the Central Statistics Office (https://www.cso.ie/en/). Other examples are the website of the Office for National Statistics in the UK (https://www.ons.gov.uk/), the European Statistics website (https://ec.europa.eu/eurostat) and Our World in Data website (https://ourworldindata.org/)

2. What are the topics that you shall consider?

Data shall be on a topic that you like (working on something you like is usually easier) however, it shall be related to business, economics or society (in a broader sense). Moreover, the topic shall be focused (e.g., macroeconomic themes, such as those related to GDP, are too broad and, as such, not advisable). Examples of good topics are those investigating crime, environment, health, tourism, and similar. However, the most important thing is that you choose a topic that is not too broad but related to a narrow field

3. What is the task to be fulfilled once students select the dataset?

You shall perform both descriptive statistics and inferential statistics in order to analyze the dataset; with particular reference to inferential statistics, you shall provide at least one application of confidence intervals and one application of hypothesis testing. Your computations shall be performed in Excel and paired with an adequate discussion of the obtained results (e.g., graph commentaries for the descriptive statistics part, interpretation of confidence intervals for the inferential statistics part)

4. What does the assignment require in terms of deliverables (i.e., what are the students supposed to submit on Brightspace?

You need to submit:

- a spreadsheet containing your statistical computations; and
- **EITHER** a report (go to 4.a for details) **OR** a video presentation with your slides (go to 4.b for details)

This means that you have a **choice of assessment**: you **must** pair the spreadsheet (i.e., your computations) with either a written piece of work or a video presentation (this last option also requires a set of slides to be submitted separately)

4.a If the report is the choice, what is the structure that the report shall have?

The report shall include:

- Abstract/Executive Summary: a short summary (approximately 250-300 words) of what are the contents of the report (e.g., topic, analyses carried out, main findings)
- Introduction: background details on the topic (why this topic, what is its relevance?) and on the data, what are the questions that you would like to answer through the data analysis
- Statistics analysis: this is the most important section of the report and shall include two sub-sections, one on descriptive statistics and one on inferential statistics (as detailed in point 3)
- Conclusions: maximum one page summarizing the findings (recommendations are optional)
- References: at least one reference shall be present: your data source. Extensive reading into the topic will be rewarded with a higher mark (please note: a long list of references does not equal a higher mark unless references are cited and used appropriately)
- Submission on Brightspace: by **December 1st, 2024, 11:59 pm**. You shall submit two separate files: the report (in **.docx** or **PDF** format) and the corresponding spreadsheet containing your computations (either in **.xlsx** or **open source** formats). Please remember that **.zip files containing ALL the files cannot be accepted**. Only one member of the team shall submit both report and spreadsheet. The report shall contain full name and student number of each member of the team, preferably on the cover page of the report and, at the very end, after the references section, there shall be a very short summary of the work (e.g., activities) carried out by each member of the group
- Word limit: the report shall not exceed **2500 words** (+/-10% allowance, **excluding** references and summary of the work carried out by each member of the group)

4.b If the presentation is the choice, what is the structure that the presentation shall have?

The video presentation (and the corresponding slides) shall include Introduction, Statistics Analysis, Conclusions and References as described in the report structure

- Submission on Brightspace: by **December 1st, 2024, 11:59 pm**. You shall submit three separate files: a text file containing the link to your video presentation file (for more info see below), the presentation slides (in **.pptx** or **PDF** format) and the corresponding spreadsheet containing your computations (either in **.xlsx** or **open source** formats). Please remember that **.zip files containing ALL the files cannot be accepted**. Only one member of the team shall submit the video presentation, slides and spreadsheet. The slides shall contain full name and student number of each member of the team, preferably on the cover page of the presentation and, at the very end, after the references slides, there shall be one slide with a very short summary of the work (e.g., activities) carried out by each member of the group
- Video /presentation limit: while you have freedom on the number of slides, the video presentation shall be of around **10 minutes**. You can record your presentation using any tool that you wish (for example you could use Zoom to record the group presentation) but you must only submit a link to the video recording and not the video itself. You can save video files to your cloud storage service, Google Drive for example, and share the recording link by pasting it to a text file and submitting this via the assignment link in Brightspace. If using Zoom, simply share the recording link, again via text file: be sure to check the sharing permissions for me to view it. Remember, do not upload the video file as part of your submission, these file types are too large and can be difficult to view via the module on Brightspace.

Plagiarism policy

Students are reminded of the University's policies on plagiarism: this applies to this assessment. You shall produce your own piece of work and be careful with referencing and in-text citations. Plagiarism and any subversion of the assessment process can lead to severe penalties up to and including expulsion from the University. Further details are available: http://www.ucd.ie/governance/resources/policypage-plagiarismpolicy/

Marking criteria

The report will be marked according to three main macro-criteria:

- *Reading and topic appreciation (30%)*: it measures the knowledge of the topic you have chosen to investigate
- *Analysis and discussion (50%)*: it measures your understanding of statistical techniques as well as your abilities to analyze and interpret data
- *Presentation and structure (20%)*: it measures the effort you put in providing a *"neat"* discussion of the results, being it in either report or presentation format

The attached rubric provides a guideline on how the final mark for the continuous assignment will be computed. Further feedback will be provided for each group submission within Brightspace as part of the marking procedure.

Mark	Reading and topic appreciation	Analysis and discussion	Presentation and structure
Excellent A+ A A-	Very extensive reading and exceptional appreciation to the context	Very in-depth understanding of statistical techniques and critical discussion of the findings	Very well-organized structure, tables/graphs properly introduced, very high standard of English, perfect referencing, very neat Excel spreadsheet
Very Good B+ B B-	Broad reading and extensive knowledge of the topic under investigation	Broad understanding of statistical techniques and extensive discussion of the findings	Well-organized structure, tables/graphs introduced, high standard of English, very good referencing, neat Excel spreadsheet
Good C+ C C-	Good amount of reading and comprehensive knowledge of the topic	Good understanding of statistical techniques and comprehensive discussion of the findings	Organized structure, tables/graphs somehow introduced, good standard of English with little typos, good referencing, good Excel spreadsheet
Acceptable D+ D D-	Fair amount of reading and reasonable appreciation to the context	Fair understanding of statistical techniques and basic discussion of the findings	Basic structure, tables/graphs basically introduced, average standard of English with several typos, little in-text citations/references are missing, basic Excel spreadsheet
Fail E+ - G-	Limited reading and little appreciation of the topic under consideration	Poor understanding of statistical techniques and little discussion of the findings	No structure, tables/graphs not introduced, poor standard of English, poor referencing, no Excel spreadsheet