







CASE STUDY INFORMATION

Case/Scenario: You consult the funds management on their prospective international portfolio investment strategy. The fund managers that you work with regularly have commissioned you to provide an overview of the specific industries. Currently, the fund management is interested in cross-border services industry as one of the prospective investment directions. They want to identify historical performance and future projections of the industry in Europe, the United States, and Asia-Pacific regions.

Business context: The cross-border services industry thrives on the exchange of skills, knowledge, and expertise across borders, generating significant employment opportunities and contributing substantially to the GDP of both exporting and importing nations. This industry's growth has been fueled by advancements in technology, the expansion of global supply chains, and the increasing demand for specialized services in a rapidly changing world.

However, with the onset of the pandemic, the industry faced a seismic disruption, the likes of which had never been witnessed before. Social distancing measures, lockdowns, and travel restrictions brought many service-based operations to a screeching halt, leaving millions of workers unemployed and businesses on the brink of collapse. COVID-19 pandemic has influenced the sector and accelerated certain trends, such as digital transformation and remote service delivery.

Project objectives:

1. Looking at both industry and economy specific data over the past five years, is there a correlation (positive or negative) between the performance of cross-border services industry and their local jurisdiction's GDP and other key economic metrics or events (e.g., the COVID-19 pandemic). If so, what may be the reasons for the correlation? Please provide both quantitative and qualitative analysis supporting any findings.
2. In addition, based on your analysis towards the Objective (1) identify future prospects, drivers of performance and risks across various jurisdictions? Please also provide any supporting analysis for these additional considerations. The key jurisdictions of interest are the US, UK, China, Japan, South Korea, Australia, and New Zealand.

COMM5000 Context

This is a business question that is based on real datasets. The role you are to play is one of a consultant contracted by funds management to assist with the analysis of data using the COMM5000 data analysis tools, which include descriptive and inferential statistics.

The work will be scaffolded into two milestones M1 (20%) & M2 (20%) and a final project report (60%). Every milestone will require you to use what you have learned to address specific aspects of the data. Generally, M1 consists of an exploratory data analysis, whereas M2 is concerned with identifying hypotheses and formulating key inferential questions. In the final project report, all the insights gathered from M1 and M2 are used to model the data to answer the project questions.

Schedule of engagement

As part of additional support for assessments one of the course teaching team members will hold consultation sessions throughout the term. It is very important that you attend these sessions where we will hold live synchronous sessions to provide more detailed information about the case study. During these sessions, you are free to ask questions and discuss any aspects of the project.

- 1) **Week 3, Friday 29th September**, from 15:00-16:00 (short presentation of assessment followed by Q&A)
- 2) **Week 7, TBA** (Q&A and mentoring)

MILESTONE 1: Preliminary Insight Development

Report details



Week 4, Friday 6th October 5PM



20%



Report: This is individual work. Reports will be checked for plagiarism.



1000 words (not including tables, graphs, and references)



Via Moodle course site

Description of assessment task

This first milestone aims to give you a better understanding of the datasets, variables, and questions in this Case Study. This exploratory data analysis seeks to get the necessary insights so that a development plan can be formulated to address the following key points of the case study project:

- 1) Correlation analysis: a cross-sectional analysis of correlation patterns between the performance of cross-border services industry and the local jurisdiction's key economic factors like GDP.
- 2) Covid-19 effect analysis of cross-sectional patterns across the years may capture the effect of Covid on performance of the industry (by country).

You must submit a written development plan summarising the finding from the data explorations, describing any patterns from comparing summary statistics of the variable of interest between countries, and providing a plan on how you may address the key questions (1) and (2). The report should be concise and to the point.

Please note that you are not required to fully answer (1) and (2) in this milestone. Instead, you are required to develop insights and understand the problem, as well as the datasets for your final project.

As a style guide, you may include some or all tables/graphs as an appendix and refer to them as appropriate in your report. You should only include graphics and tables to support your analysis, conclusions, and findings. While preparing your paper, you will encounter numerous tables and graphs, which are irrelevant to the analysis. So be very selective and make good use of the page limit!

Approach to the assessment task

In week 1, we learnt how to represent the data using graphical tools, as well as numerical summaries. All these tools are meant to give us an idea of what the data is 'trying to tell us'. Can we make sense of the large numbers of observations and tell a simple story or pick up a trend? This is what you will do in this milestone: understand the data and what we are trying to find out from the data.

(A) Expected Tasks

- (i) **Download your allocated data spreadsheets.** This assessment requires the download of two Excel files provided on your course Moodle page (*Data_Economy.xlsx* and *Data_Service.xlsx*). These files are publicly available from the OECD database (<https://stats.oecd.org>). They contain indicators on cross-border services industry, as well as select economic indicators. Please check the table '[Country Allocation](#)' below to find out

which countries you must analyse.

Country allocation

ZID ending	Reporter Country	Partner Country 1	Partner Country 2
5 and 6	Australia	US	NZ
8 and 9	China	US	UK
0 and 3	China	Australia	NZ
2 and 7	UK	Australia	China
1 and 4	Australia	China	NZ

- (ii) **Data preparation.** Please check the document ‘[Data Preparation and Data Cleaning](#)’ to prepare your data for analysis. The main data issue here is the missing points. These appear as ‘n.a.’ but sometimes also as ‘0’. In the latter case, you should double-check whether the variable in question can have a ‘real’ 0 value or whether ‘0’, in fact, represents an ‘n.a.’ missing value. Some strategies for dealing with missing points appear in the document and will be discussed in your weekly SEM. You must explain any data manipulations you perform and provide a rationale for them.
- (iii) **Variables of interest.** While preparing the data, think about (1) and (2) above and ask what information you need to be able to address these points. For instance, one of the datasets contains annual bilateral data on annual international trade in services by various characteristics.
- (iv) **Data structure.** An essential aspect of the analysis is understanding the dataset’s structure. Each of the datasets contains notes with the description of variables and their structure. For each country, we have a panel dataset. Each panel is a cross-section of companies observed over a period of years.
- (v) You may not have all the information needed in the data file to address (1) and (2). For example, we are interested in understanding the effect of a country’s key economic indicators (like GDP) on the services industry. At this point, you may want to ask how to use additional data to answer this question. By the completion of the final project you will be required to obtain additional data from other available sources.

(B) The expected outcomes

The written work must provide a brief description of the Case Study problem and a clear plan of how the dataset provided will address the key questions raised in the project description. You will have the opportunity to adjust, revise and review this plan as we progress throughout the term. M1 analysis is based on COMM5000 content covered in weeks 1, 2 and 3.

- (i) Numerical summaries of the key variables of interest: present the means, median, and standard deviations of the variables in the data. You may represent these results in the form of tables. For example, for each country

	Mean	Median	Mode	SD	Min	Max
Variable name 1						
...						

- (ii) Graphical representations of some variables if you deem it important for to capture a trend or some interesting patterns in the data. For instance, if you plot a bar chart of average trade performance by country and by year, there may be a pattern emerging in relation to jurisdiction and year effect.
- (iii) What conclusions can you make from the inspection of these data summaries in the form of tables and graphs? For example, is there a pattern in the tables when comparing the countries?
- (iv) Your analysis should inform your development plan to address points (1) and (2) in Milestone 2 and in the final report. This plan may be revised later during your work on Milestone 2.

Structure of the report

* **Introduction** You should briefly introduce the industry client (funds management) and summarise the purpose and importance of this project for the client. Then outline how this preliminary insight development plan will be structured. It is important to provide some background information on this topic, which is to say, what is the general performance of

cross-border services industry.

* **Data Summaries and Descriptive Statistics:** Provide the necessary analysis to explore the variables in each country. Describe the trends and stories that emerge from the data summaries. Are any patterns emerging from the graphs or tables you have constructed so far? Note: now that you have completed the first stage of data summaries, you have some basic insight into the dataset. You can use this information to develop some plans of action to address points (1) and (2) in Milestone 2 and in the final report.

* **Conclusion:** This should summarise the findings of your investigation and any concluding comments. The conclusion should also provide your plan for the next step of the analysis.

* It is suggested that you limit your report to a maximum of 8 pages including tables, graphs, and references.

Submission instructions

- Via Moodle course site.

Supporting resources and links

- **Dataset files:** The spreadsheets are available on Moodle. You only need to analyse the countries allocated to you. Check the 'Country allocation' table.
- Check the '**Data Preparation and Data Cleaning**' document for details on preparing your data for analysis in Excel.
- **Weekly seminar:** the seminar coordinator will cover aspects of data manipulation using Excel during the SEM session

Milestone 1 Marking Rubrics

Criteria	Ratings					Pts
<p>Business context and articulation of problem(s) (10%)</p> <p>Task(i) (See Milestone 1 information)</p>	<p>High Distinction (85-100%)</p> <p>The problem and business context are clearly and correctly identified and defined, providing significant original, innovative, advanced insight into the problem.</p>	<p>Distinction (75-84%)</p> <p>The problem and business context are clearly and considerably identified and defined, providing some original, innovative, advanced insight into the problem.</p>	<p>Credit (65-74%)</p> <p>The problem and business context are mostly identified and defined, providing some original, basic insight into the problem.</p>	<p>Pass (50-64%)</p> <p>The problem and business context are identified and defined but lack a coherent argument or sufficient clarity to justify the relevance and significance of the problem.</p>	<p>Fail (0-49%)</p> <p>Problem and business context are unclear or poorly identified and defined, providing little or no insight into the problem.</p>	2 pts
<p>Data processing (30%)</p> <p>Tasks (ii)-(iv) of Milestone 1 information</p>	<p>High Distinction (85-100%)</p> <p>Quantitative and associated qualitative raw data are exceptionally well processed, including units and uncertainties where relevant.</p> <p>The processed data is presented completely and appropriately and where relevant, includes errors and uncertainties.</p>	<p>Distinction (75-84%)</p> <p>Quantitative and associated qualitative raw data are processed appropriately, including units and uncertainties where relevant.</p> <p>The processed data is presented appropriately and where relevant, includes errors and uncertainties.</p>	<p>Credit (65-74%)</p> <p>Quantitative and associated qualitative raw data are processed, including units and uncertainties where relevant, but with a few mistakes, omissions, and errors.</p> <p>The processed data is presented with some errors and uncertainties.</p>	<p>Pass (50-64%)</p> <p>Quantitative and associated qualitative raw data are processed partially, including units and uncertainties where relevant, but with some mistakes, omissions, and errors.</p> <p>The processed data is presented partially with a few errors.</p>	<p>Fail (0-49%)</p> <p>Quantitative and associated qualitative raw data are processed poorly or to some extent, with mistakes, omissions, and errors.</p> <p>The processed data is presented incomprehensibly and lacks cohesion.</p>	6 pts
<p>Exploratory data analysis (40%)</p> <p>Expected outcomes (ii)-(iii) (See Milestone 1 information)</p>	<p>High Distinction (85-100%)</p> <p>Data are analysed using an extensive and correct range of appropriate codes, models, techniques and/or tools.</p> <p>The analysis is clear, accurate, sophisticated, and comprehensive.</p>	<p>Distinction (75-84%)</p> <p>Data are analysed using a broad and correct range of appropriate codes, models, techniques and/or tools.</p> <p>The analysis is reasonable accurate, well-explained, and coherent.</p>	<p>Credit (65-74%)</p> <p>Data are analysed using a good and reasonable range of appropriate codes, models, techniques and/or tools.</p> <p>The analysis is mostly accurate, and the problem is evident; however not well explained or poorly stated.</p>	<p>Pass (50-64%)</p> <p>Data are analysed using a basic range of appropriate codes, models, techniques and/or tools.</p> <p>The analysis lacks depth and criticality. Poor or no connections between data analysis and the problem are evident.</p>	<p>Fail (0-49%)</p> <p>Data analysis is incorrect and/or inappropriate codes, models, techniques and/or tools used in the analysis are insufficient and/or irrelevant.</p> <p>The analysis is superficial, inaccurate, and/or insufficient.</p>	8 pts
<p>Conclusions and preliminary recommendations (10%)</p> <p>Expected outcome (iii) (iv) See Milestone 1 information)</p>	<p>High Distinction (85-100%)</p> <p>A detailed conclusion is described and justified, which shows a profound understanding of the problem and business. The data and analysis clearly and critically support the findings. An extensive range of potential recommendations, including some original/innovative/creative solutions, are identified and evaluated using the most relevant and appropriate contextual factors (e.g., constraints, limitations, risks, implications). The recommended solutions leading to the recommendations are original, innovative and creative.</p>	<p>Distinction (75-84%)</p> <p>A conclusion is well-described and justified. It is relevant to the problem and business. The data and analysis support the conclusions. A broad range of potential recommendations are identified and evaluated using most relevant and appropriate contextual factors (e.g., constraints, limitations, risks, implications). The recommended solutions leading to the recommendations are robust, feasible and clearly distinguished.</p>	<p>Credit (65-74%)</p> <p>A conclusion is provided but is only partially relevant to the problem and business. The data and analysis partially support the conclusions. A range of potential recommendations are identified and evaluated using the key relevant and appropriate contextual factors (e.g., constraints, limitations, risks, implications). The recommended solutions are feasible and appropriate.</p>	<p>Pass (50-64%)</p> <p>A conclusion is provided but provides limited relevance to the problem and business. The data and analysis only slightly support the conclusions. A limited range of potential recommendations are identified and evaluated using the relevant and appropriate contextual factors (e.g., constraints, limitations, risks, implications). The recommended solutions are limited and potentially feasible.</p>	<p>Fail (0-49%)</p> <p>A conclusion is irrelevant to the problem and context, and not supported by the data and analysis. The potential recommendations are too basic and lack depth. They are not evaluated referencing relevant and appropriate contextual factors (e.g., constraints, limitations, risks, implications). The recommended solutions are unclear, unfeasible and/or inappropriate.</p>	2 pts
<p>Professional presentation of the report-written/visual (10%)</p>	<p>High Distinction (85-100%)</p> <p>The presentation of report is delivered professionally and engagingly with excellent fluency. Text is accurately formatted, proofread and edited, e.g., spelling, word choice/use of terminology, grammar, referencing, and appropriate length. An extensive range of quantitative/visual information is provided correctly and significantly enhances the report's effectiveness. The relationship between text, visuals and report structure is clear throughout.</p>	<p>Distinction (75-84%)</p> <p>The presentation of report is delivered professionally and engagingly. Text is properly formatted, proofread and edited, e.g., spelling, word choice/use of terminology, grammar, referencing, and appropriate length. A broader and informative range of quantitative/visual information is provided correctly and enhances the report's effectiveness. The relationship between text, visuals and report structure is professional and coherent.</p>	<p>Credit (65-74%)</p> <p>The presentation of report is delivered professionally. Text is mostly properly formatted, proofread and edited, e.g., spelling, word choice/use of terminology, grammar, referencing, and appropriate length. Necessary quantitative/visual information is mostly provided; such information is correct and relevant. The relationship between text, visuals and report structure is generally made coherent.</p>	<p>Pass (50-64%)</p> <p>The presentation of the report is delivered. Text is not consistently fluent and clear. The report has some proofreading and editing issues, including spelling, word choice, use of terminology, grammar, referencing and/or inappropriate length. Quantitative/visual information is limited. The relationship between text, visuals and report structure is mostly clear.</p>	<p>Fail (0-49%)</p> <p>The presentation of the report is poorly delivered. Text is inadequately formatted, proofread and/or edited. The issues can include spelling, word choice, use of terminology, grammar, referencing and/or inappropriate length. Quantitative/visual information is poorly presented, irrelevant and/or incorrect. The relationship between text, visuals and report structure is incoherent.</p>	2 pts
Total Points: 20						