

BBS300 *Empirical Research Methods for Business*
TMA 1, 2021
Assignment 1

**Due: Sunday, 20 June 2021,
Before 23:55 PM**

This assignment covers material from Sessions 1-4 and is worth 30 marks to be rescaled to 20% of your total mark of BBS300. Your solutions should be properly presented, and it is important that you double-check your spelling and grammar and thoroughly proofread your assignment before submitting. **Instructions for assignment submission are presented in the “Assignment 1” link and must be strictly adhered to. No marks will be awarded to assignments that are submitted after the due date and time. All analyses must be carried out using SPSS, and no marks will be awarded for assignment questions where SPSS output supporting your answer is not provided in your Microsoft Word file submitted for the Assignment.**

Questions

In this assignment, we will examine the “Real Estate Market” dataset (described at the end of the assignment). Before beginning the assignment, read through the descriptions of this dataset and its variables carefully. The “Real Estate Market” dataset can be found in the file “realestatemarket.sav,”. **You will need to carefully inspect both SPSS data files to be sure that the specification of variable types is correct and, where appropriate, value labels are entered.** Your answer file must not exceed 10 pages.

1. (12 marks)

Use appropriate graphical displays and measures of centrality and dispersion to summarise the following four variables in the “Real Estate Market” dataset. For graphical displays for numeric data, be sure to comment on not only the shape of the distribution but also compliance with a normal distribution. Be sure to include **relevant** SPSS output (graphs, tables) to support your answers.

- (a) Weekly rent.**
- (b) Lot Size.**
- (c) Material.**
- (d) Condition.**

(8 marks)

- 2.** Again consider the variable **Weekly rent**, which records the property weekly rent (in AUD). It is of interest to know if this is associated with the distance of the property is located to the train station. It is also of interest to know if the weekly rents are associated with distance to the nearest bus stop. Carry out an appropriate analysis to assess whether there is a significant association between the property weekly rent and distance to the nearest train (**To train**) station and the nearest bus stop (**To bus**). Be sure to thoroughly assess the assumptions of your particular analysis, and be sure to include **relevant** SPSS output (graphs, tables) to support your answers.

3. (7 marks)

Provide a chart or a table to present the relationship between the following variables:

1. Weekly rent & property price
2. Material & condition

Again, you need to provide a paragraph to describe each chart or table.

4. (3 marks)

Presentation marks. These marks are allocated based on:

- structure, clarity, and tidiness of presented solutions/answers; and
- correctness in spelling and grammar.

Melbourne Property Prices

The dataset **realestatemarket.sav** contains data on 120 properties listed on the database of a real estate agent in an Australian suburb. The table below provides a list of variables contained in the dataset.

| Variable Descriptions | |
|-----------------------|---|
| Price | Selling price of house in \$'000 |
| Rooms | Number of main rooms in the house |
| Lot Size | Area of the block of land (lot) in square metres |
| Age | Age of the house in years |
| Area | Area of the house in square metres |
| Material | Timber = 1, Veneer = 2, Brick = 3 |
| To Train | Distance of the house to the nearest train station (kilometres) |
| To Bus | Distance of the house to the nearest bus stop (kilometres) |
| To Shops | Distance of the house to the nearest shopping centre (kilometres) |
| Street | Street appeal as evaluated by the real estate agency: ranges from 0 (lowest appeal) to 10 (highest appeal) |
| Storeys | Number of storeys or levels in the house |
| Style | Traditional Style = 0, Non-Traditional Style = 1 |
| Bedrooms | Number of bedrooms |
| Bathrooms | Number of bathrooms |
| Kitchen | Style of kitchen: Adequate = 0, Modern = 1 |
| Heating | Central or other heating system installed: No Heat = 0, Yes Heat = 1 |
| AirCon | Air conditioning installed: No AC (No AirCon) = 0, AC (Yes AirCon) = 1 |
| Bay Views | Proportion of views of the Bay from a prominent part of the property: ranges from 0 = Nil views up to 1 = Full views |
| Suburb | Three different suburbs: 1 = Suburb A, 2 = Suburb B, 3 = Suburb C |
| Weekly Rent \$ | Actual or estimated weekly rent in \$. |
| Rental Return % | Annual rate of return from rent income (Weekly rent x 52)/(Price in \$'000) as a percentage (%) |
| Condition | The condition of the house in general. Very Poor = 1, Poor = 2, Good = 3, Excellent = 4 |
| Rental Status | Vacant (available for rent) = 1; Rented (currently rented) = 2; Owner (occupied by owner) = 3 |

Table 1: Descriptions of variables contained in the dataset Realestatemarket.

