# **Exercise 8.6**

Consider the bank cardholder data of Data Set C. Open the Excel workbook **Exe8.6C.xlsx** which contains this data from the Exercises folder.

Assuming the data to be suitably distributed, complete an appropriate test of whether the population mean income for males exceeds that of females and interpret your findings. What assumptions underpin the validity of your analysis, and how could you validate them?

## **Results**

|  |  |  |
| --- | --- | --- |
|  | **M** | **F** |
| F test | 0.4 |  |
| Mean | 52.9 | 44.2 |
| Diif | 8.7 |  |
|  |  |  |
| STDEV | 15.26856 | 13.79042 |
| 2s - Mean | 22.37621 | 16.65248 |

## A brief interpretation of the findings:

The sample mean income for males and females was 52.9 and 44.2.

Therefore, the data constitute strong evidence that the underlying mean income was greater for males, by an estimated 52.9 – 44.2 = 8.7. The results strongly suggest that males are making more income.

The assumption was that the data was distributed suitably. So, we can calculate the standard deviation and validate the results. Based on the calculation 2s – Mean is great for males, validating the results more males are making more income.