

6.15 CASE STUDY

Even though there are obviously problems with normality, (results of Case study 5.10), your directors would like you to calculate confidence intervals for:

- Gross sales for all outlets together; gross sales for each type of outlet separately
- Market value of all outlets together; market value of each type of outlet separately
- Number of full-time employees for all outlets together; number of full-time employees for each type of outlet separately
- Number of part-time employees for all outlets together; number of part-time employees for each type of outlet separately
- Wages as % of sales for all outlets together; wages as % of sales for each type of outlet separately
- Advertising as % of sales for all outlets together; advertising as % of sales for each type of outlet separately

For all the outlets			For takeaways only		
	95% Confidence Interval of the Difference			95% Confidence Interval of the Difference	
	Lower	Upper		Lower	Upper
Gross sales (£'000)	245.21	316.83	Gross sales (£'000)	234.48	352.33
Market value of business (£'000)	232.46	325.48	Market value of business (£'000)	212.91	399.09
Wages as % of sales	23.71	26.54	Wages as % of sales	22.87	27.17
Advertising as % of sales	3.40	4.43	Advertising as % of sales	2.93	4.30
Number of full-time employees	6.05	8.67	Number of full-time employees	4.64	8.77
Number of part-time employees	10.98	14.47	Number of part-time employees	9.91	14.62

For cafes only			For restaurants only		
	95% Confidence Interval of the Difference			95% Confidence Interval of the Difference	
	Lower	Upper		Lower	Upper
Gross sales (£'000)	232.79	352.75	Gross sales (£'000)	180.87	320.92
Market value of business (£'000)	251.29	350.83	Market value of business (£'000)	142.92	297.79
Wages as % of sales	21.71	27.51	Wages as % of sales	23.18	28.32
Advertising as % of sales	3.24	5.19	Advertising as % of sales	2.97	5.27
Number of full-time employees	4.82	9.29	Number of full-time employees	6.00	11.39
Number of part-time employees	10.42	16.26	Number of part-time employees	8.73	17.08

- None of the variables show any difference between the outlets as measured by confidence intervals which all overlap.