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 takeaways only		
For all th	e outlets 95% Co	onfidence		95% Inte	Confidence rval of the fference
	Difference			Lower	Upper
	Lower	Upper	Gross sales (£'000)	234.4	8 352.33
Gross sales (£'000) Market value of business	245.21	316.83	Market value of busines (£'000)	s 212.9	399.09
(£'000)	232.46	325.48	Wages as % of sales	22.8	27.17
Wages as % of sales	23.71	26.54	Advertising as % of sale	es 2.9	4.30
Advertising as % of sales	3.40	4.43	Number of full-time employees	4.6	8.77
employees	6.05	8.67	Number of part-time	9.9	14.62
number of part-time	10.98	14.47	cilipioyees		
For one	s only		For rostaura	unte only	
For cafe	s only		For restaura	ints only	
For cafe	s only 95% Con Interval Differe	fidence of the ence	For restaura	nts only 95% Cor Interval Differ	fidence of the ence
For cafe	s only 95% Con Interval Differe Lower	fidence of the ence Upper	For restaura	95% Cor Interval Differ Lower	fidence of the ence Upper
For cafe Gross sales (£'000)	s only 95% Con Interval Differe Lower 232.79	fidence of the ence Upper 352.75	For restaura	95% Cor Interval Differ Lower 180.87	nfidence of the ence Upper 320.92
For cafe Gross sales (£'000) Market value of business (f'000)	s only 95% Con Interval Differe Lower 232.79 251.29	fidence of the ence Upper 352.75 350.83	For restaura Gross sales (£'000) Market value of business (£'000)	95% Cor Interval Differ Lower 180.87 142.92	fidence of the ence Upper 320.92 297.79
For cafe Gross sales (£'000) Market value of business (£'000) Wages as % of sales	s only 95% Con Interval Differe Lower 232.79 251.29 21.71	fidence of the ence Upper 352.75 350.83 27.51	For restaura Gross sales (£'000) Market value of business (£'000) Wages as % of sales	95% Cor Interval Differ Lower 180.87 142.92 23.18	fidence of the ence Upper 320.92 297.79 28.32
For cafe Gross sales (£'000) Market value of business (£'000) Wages as % of sales Advertising as % of sales	s only 95% Con Interval Differe Lower 232.79 251.29 21.71 3.24	fidence of the <u>Upper</u> 352.75 350.83 27.51	For restaura Gross sales (£'000) Market value of business (£'000) Wages as % of sales Advertising as % of sales	95% Cor Interval Differ Lower 180.87 142.92 23.18 2.97	fidence of the ence Upper 320.92 297.79 28.32 5.27
For cafe Gross sales (£'000) Market value of business (£'000) Wages as % of sales Advertising as % of sales Number of full-time employees	s only 95% Con Interval Differe Lower 232.79 251.29 21.71 3.24 4.82	fidence of the <u>Upper</u> 352.75 350.83 27.51 5.19 9.29	For restaura Gross sales (£'000) Market value of business (£'000) Wages as % of sales Advertising as % of sales Number of full-time employees	95% Cor Interval Differ Lower 180.87 142.92 23.18 2.97 6.00	fidence of the ence Upper 320.92 297.79 28.32 5.27 11.39

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