

F test Analysis using Agri Analyze

Descriptive Statistics of Data

Statistic	Y1900	Y1970
Mean	45.0000	54.4091
Median	45.9	55.4
Variance	37.8475	23.6069
Standard Deviation	6.1520	4.8587
Coefficient of Variation	13.6712	8.9299
Skewness	-0.1479	-0.5554
Kurtosis	-0.8573	-0.5319

Box plot of the data



Histogram of the data



Shapiro Wilk test for checking normality of the Y1900

Null hypothesis (Ho): The data of Y1900 sample is normally distributed.

Null hypothesis (Ha): The data of Y1900 sample is not normally distributed.

Results: Shapiro-Wilk test statistic: 0.9843 and P-value: 0.9827

Interpretation: The p value 0.9827 is greater than alpha value (0.05). The results are non-significant and we accept the null hypothesis. The data is normally distributed.

Shapiro Wilk test for checking normality of the Y1970

Null hypothesis (Ho): The data of Y1970 sample is normally distributed.

Null hypothesis (Ha): The data of Y1970 sample is not normally distributed.

Results: Shapiro-Wilk test statistic: 0.9554 and P-value: 0.7135

Interpretation: The p value 0.7135 is greater than alpha value (0.05). The results are non-significant and we accept the null hypothesis. The data is normally distributed.

F test results

Ho: $\sigma_1^2 = \sigma_2^2$ (The population variance of both the samples are equal)

Ha: $\sigma_1^2 \neq \sigma_2^2$ (The population variance of both the samples are not equal)

Summary of F test

Particulars	Value
Variance 1	37.8475
Variance 2	23.6069
F-Test Value	1.6032
P-Value	0.4762
Degrees of Freedom-1	8.0000
Degrees of Freedom-2	10.0000
Lower Limit of Conf. Interval	0.4159
Upper Limit of Conf. Interval	6.8861

Interpretation: The p-value 0.4762 was greater than alpha (0.05). The results were non-significant and we accept the null hypothesis. The population variances of both samples are equal.