Appendix
APPENDIX

T – TEST CALCULATIONS

(A) Return on Investment Ratios

5.1 Return on Capital Employed Ratio

Difference Scores Calculations

\[ \text{Mean: } -5.44 \]

\[ \mu = 0 \]

\[ S^2 = SS/df = 2465.39 \cdot (10-1) = 273.93 \]

\[ S^2_M = S^2/N = 273.93/10 = 27.39 \]

\[ S_M = \sqrt{S^2_M} = \sqrt{27.39} = 5.23 \]

T-value Calculation

\[ t = (M - \mu)S_M = (-5.44 - 0) \cdot 5.23 = -1.04 \]

The value of \( t \) is -1.039195. The value of \( p \) is 0.325826. The result is not significant at \( p \leq 0.05 \).

5.2 Return on Long-Term Fund Ratio

Difference Scores Calculations

\[ \text{Mean: } -5.86 \]

\[ \mu = 0 \]

\[ S^2 = SS/df = 1972.62 \cdot (10-1) = 219.18 \]

\[ S^2_M = S^2/N = 219.18/10 = 21.92 \]

\[ S_M = \sqrt{S^2_M} = \sqrt{21.92} = 4.68 \]

T-value Calculation
\[ t = (M - \mu)S_M = (-5.86 - 0)4.68 = -1.25 \]

*The value of \( t \) is -1.251050. The value of \( p \) is 0.242458. The result is not significant at \( p \leq 0.05 \).*

### 5.3 Return on Assets Ratio

Difference Scores Calculations

*Mean: -28.77*

\[ \mu = 0 \]

\[ S^2 = SS/df = 259020.07/(10-1) = 28780.01 \]

\[ S^2_M = S^2/N = 28780.01/10 = 2878.00 \]

\[ S_M = \sqrt{S^2_M} = \sqrt{2878.00} = 53.65 \]

**T-value Calculation**

\[ t = (M - \mu)S_M = (-28.77 - 0)/53.65 = -0.54 \]

*The value of \( t \) is -0.536283. The value of \( p \) is 0.604762. The result is not significant at \( p \leq 0.05 \).*

### 5.4 Return on Shareholder’s Fund Ratio

Difference Scores Calculations

*Mean: -37.24*

\[ \mu = 0 \]

\[ S^2 = SS/df = 42642.39/(10-1) = 4738.04 \]

\[ S^2_M = S^2/N = 4738.04/10 = 473.80 \]

\[ S_M = \sqrt{S^2_M} = \sqrt{473.80} = 21.77 \]
T-value Calculation

\[ t = \frac{(M - \mu)S_M}{21.77} = -37.24 - 0 \]  
\[ t = 1.71 \]

The value of \( t \) is -1.710797. The value of \( p \) is 0.121282. 
The result is not significant at \( p \leq 0.05 \).

(B) Profitability Ratios

5.5 Gross Profit Ratio

Difference Scores Calculations

\textit{Mean}: -5.53  
\( \mu = 0 \)

\[ S^2 = SS/df = 546.84 \]  
\( S^2 = 546.84 / (10 - 1) = 60.76 \)

\[ S^2_M = S^2 / N = 60.76 / 10 = 6.08 \]

\[ S_M = \sqrt{S^2_M} = \sqrt{6.08} = 2.46 \]

T-value Calculation

\[ t = \frac{(M - \mu)S_M}{2.46} = -5.53 - 0 \]  
\[ t = 2.24 \]

The value of \( t \) is -2.242647. The value of \( p \) is 0.05162. 
The result is not significant at \( p \leq 0.05 \).

5.6 Net Profit Ratio

Difference Scores Calculations

\textit{Mean}: 4.09  
\( \mu = 0 \)

\[ S^2 = SS/df = 5802.86 \]  
\( S^2 = 5802.86 / (10 - 1) = 644.76 \)
\[ S^2_M = \frac{S^2}{N} = \frac{644.76}{10} = 64.48 \]
\[ S_M = \sqrt{S^2_M} = \sqrt{64.48} = 8.03 \]

T-value Calculation

\[ t = \frac{(M - \mu)S_M}{(4.09 - 0) \times 8.03} = 0.51 \]

The value of \( t \) is 0.509857. The value of \( p \) is 0.622419. The result is not significant at \( p \leq 0.05 \).

5.7 Operating Profit Ratio

Difference Scores Calculations

Mean: 2.90
\[ \mu = 0 \]
\[ S^2 = SS/df = 5588.97/(10-1) = 621.00 \]
\[ S^2_M = \frac{S^2}{N} = \frac{621.00}{10} = 62.10 \]
\[ S_M = \sqrt{S^2_M} = \sqrt{62.10} = 7.88 \]

T-value Calculation

\[ t = \frac{(M - \mu)S_M}{(2.90 - 0) \times 7.88} = 0.37 \]

The value of \( t \) is 0.367370. The value of \( p \) is 0.721833. The result is not significant at \( p \leq 0.05 \).

( C ) Liquidity Ratios

5.8 Current Ratio

Difference Scores Calculations

Mean: -0.09
\( \mu = 0 \)

\[ S^2 = \frac{SS}{df} = 1.16(10-1) = 0.13 \]

\[ S^2_M = \frac{S^2}{N} = 0.13/10 = 0.01 \]

\[ S_M = \sqrt{S^2_M} = \sqrt{0.01} = 0.11 \]

T-value Calculation

\[ t = \frac{(M - \mu)S_M}{S_M} = \frac{(-0.09 - 0)}{0.11} = -0.80 \]

*The value of* \( t \) *is* -0.801732. *The value of* \( p \) *is* 0.44336. *The result is not significant at* \( p \leq 0.05 \).

### 5.9 Quick Ratio

Difference Scores Calculations

*Mean:* 0.27

\( \mu = 0 \)

\[ S^2 = \frac{SS}{df} = 4.75(10-1) = 0.53 \]

\[ S^2_M = \frac{S^2}{N} = 0.53/10 = 0.05 \]

\[ S_M = \sqrt{S^2_M} = \sqrt{0.05} = 0.23 \]

T-value Calculation

\[ t = \frac{(M - \mu)S_M}{S_M} = \frac{(0.27 - 0)}{0.23} = 1.17 \]

*The value of* \( t \) *is* 1.174313. *The value of* \( p \) *is* 0.270405. *The result is not significant at* \( p \leq 0.05 \).
(D) Leverage Ratios

5.10 Debt Equity Ratio

Difference Scores Calculations

Mean: 0.26

\[ \mu = 0 \]

\[ S^2 = \frac{SS}{df} = 17.58(10-1) = 1.95 \]

\[ S^2_M = \frac{S^2}{N} = 1.95/10 = 0.20 \]

\[ S_M = \sqrt{S^2_M} = \sqrt{0.20} = 0.44 \]

T-value Calculation

\[ t = \frac{(M - \mu)S_M}{0.26 - 0} \cdot 0.44 = 0.58 \]

The value of \( t \) is 0.576941. The value of \( p \) is 0.578123.
The result is not significant at \( p \leq 0.05 \).

5.11 Long Term Debt Equity Ratio

Difference Scores Calculations

Mean: 0.23

\[ \mu = 0 \]

\[ S^2 = \frac{SS}{df} = 19.83(10-1) = 2.20 \]

\[ S^2_M = \frac{S^2}{N} = 2.20/10 = 0.22 \]

\[ S_M = \sqrt{S^2_M} = \sqrt{0.22} = 0.47 \]

T-value Calculation

\[ t = \frac{(M - \mu)S_M}{0.23 - 0} \cdot 0.47 = 0.50 \]

The value of \( t \) is 0.498575. The value of \( p \) is 0.630036.
The result is not significant at \( p \leq 0.05 \).
5.12 Total Debt to Owner's Fund Ratio

Difference Scores Calculations

Mean: 1.00
μ = 0

\[ S^2 = \frac{SS}{df} = 107.46(10-1) = 11.94 \]
\[ S^2_M = \frac{S^2}{N} = \frac{11.94}{10} = 1.19 \]
\[ S_M = \sqrt{S^2_M} = \sqrt{1.19} = 1.09 \]

T-value Calculation

\[ t = \frac{(M - \mu)S_M}{(1.00 - 0)1.09} = 0.92 \]

The value of t is 0.916979. The value of p is 0.383068.
The result is not significant at p ≤ 0.05.

(E) Activity or Efficiency Ratio

5.13 Total Assets Turnover Ratio

Difference Scores Calculations

Mean: 0.18
μ = 0

\[ S^2 = \frac{SS}{df} = 1.15(10-1) = 0.13 \]
\[ S^2_M = \frac{S^2}{N} = \frac{0.13}{10} = 0.01 \]
\[ S_M = \sqrt{S^2_M} = \sqrt{0.01} = 0.11 \]

T-value Calculation

\[ t = \frac{(M - \mu)S_M}{(0.18 - 0)0.11} = 1.58 \]

The value of t is 1.581541. The value of p is 0.148213.
The result is not significant at p ≤ 0.05.
5.14 Fixed Assets Turnover Ratio

Difference Scores Calculations

Mean: -0.09
\[ \mu = 0 \]

\[ S^2 = SS/df = 5.79(10-1) = 0.64 \]
\[ S^2_M = S^2/N = 0.64/10 = 0.06 \]
\[ S_M = \sqrt{S^2_M} = \sqrt{0.06} = 0.25 \]

T-value Calculation

\[ t = (M - \mu)S_M = (-0.09 - 0)0.25 = -0.36 \]

The value of \( t \) is -0.358755. The value of \( p \) is 0.72805. The result is not significant at \( p \leq 0.05 \).

5.15 Inventory Turnover Ratio

Difference Scores Calculations

Mean: 4.80
\[ \mu = 0 \]

\[ S^2 = SS/df = 2167.53(10-1) = 240.84 \]
\[ S^2_M = S^2/N = 240.84/10 = 24.08 \]
\[ S_M = \sqrt{S^2_M} = \sqrt{24.08} = 4.91 \]

T-value Calculation

\[ t = (M - \mu)S_M = (4.80 - 0)4.91 = 0.98 \]

The value of \( t \) is 0.977480. The value of \( p \) is 0.353873. The result is not significant at \( p \leq 0.05 \).
5.16 Debtors Turnover Ratio

Difference Scores Calculations

*Mean:* 0.77

\[ \mu = 0 \]

\[ S^2 = SS/df = 222.52(10-1) = 24.72 \]

\[ S^2_M = S^2/Н = 24.72/10 = 2.47 \]

\[ S_M = 1S^2_M = \sqrt{2.47} = 1.57 \]

T-value Calculation

\[ t = (M - \mu)/S_M = (0.77 - 0)/1.57 = 0.49 \]

The value of *t* is 0.488425. The value of *p* is 0.636929.

The result is not significant at *p* ≤ 0.05.

5.17 Working Capital Turnover Ratio

Difference Scores Calculations

*Mean:* 19.94

\[ \mu = 0 \]

\[ S^2 = SS/df = 53660.35(10-1) = 5962.26 \]

\[ S^2_M = S^2/Н = 5962.26/10 = 596.23 \]

\[ S_M = 1S^2_M = \sqrt{596.23} = 24.42 \]

T-value Calculation

\[ t = (M - \mu)/S_M = (19.94 - 0)/24.42 = 0.82 \]

The value of *t* is 0.816497. The value of *p* is 0.435295.

The result is not significant at *p* ≤ 0.05.