

APPENDIX - XXXIV

Correlation between Total Deposit and Total Loan & Advances

FY	Deposit (X)	U= (X-30000)	U ²	Loan & Advance (Y)	V= (Y-20000)	V ²	UV
2007/08	13,715.39	-16248.61	264017326.9	12,113.69	-7886.31	62193885.42	128141575.5
2008/09	27,957.22	-2042.78	4172950.13	15,131.74	-4868.26	23699955.43	9944784.16
2009/10	34,896.43	4896.43	23975026.74	17,480.54	-2519.46	6347678.69	-12336359.53
2010/11	42,415.44	12415.44	154143150.39	21,365.77	1365.77	1865327.693	16956635.49
2011/12	53,337.26	23337.26	544627704.31	26,142.09	6142.09	37725269.57	143339551.27
		U= 22357.74	U ² = 990936158.4		V= - 7766.17	V ² = 131832116.8	UV= 286046186.3

Now, We have,

$$N=5$$

$$U= 22357.74$$

$$U^2= 990936158.4$$

$$V= -7766.17$$

$$V^2=131832116.8$$

$$UV=286046186.3$$

Correlation co-efficient can be calculated by using following formula:

$$r = \frac{N \sum UV - \sum U \sum V}{\sqrt{[N \sum U^2 - (\sum U)^2] [N \sum V^2 - (\sum V)^2]}}$$

$$\text{al Investment } r = \frac{(5 \times 286046186.3) - (22357.74 \times -7766.17)}{\sqrt{[5 \times 990936158.4 - (22357.74)^2] [5 \times 131832116.8 - (-7766.17)^2]}}$$

$$r = 0.7700$$

$$r^2 = 0.5929$$

Probable error of the correlation coefficient

$$\text{P.E. (r)} = 0.6745 \frac{1-r^2}{N}$$

$$= 0.6745 \frac{1-0.5929}{2.2361}$$

$$= 0.1227$$

$$6 \text{ P.E. (r)} = 0.7362$$

APPENDIX - XXXV

Correlation between Total Deposit and Total Investment

FY	Deposit (X)	U= (X-30000)	U ²	Investment (Y)	V= (Y-15000)	V ²	UV
2007/08	13,715.39	-16248.61	264017326.9	3,088.88	-11911.12	141874779.7	193539143.5
2008/09	27,957.22	-2042.78	4172950.13	13,286.18	-1713.82	2937178.992	3500957.22
2009/10	34,896.43	4896.43	23975026.74	16,305.63	1305.63	1704669.70	6392925.90
2010/11	42,415.44	12415.44	154143150.39	18,911.02	3911.02	15296077.44	48557034.15
2011/12	53,337.26	23337.26	544627704.31	24,463.45	9463.45	89556885.90	220850993.15
	Sum ()	22357.74	990936158.5	76055.16	1055.16	251369591.7	472841054

Now, We have,

$$N=5$$

$$U= 22357.74$$

$$U^2= 990936158.5$$

$$V= 1055.16$$

$$V^2=251369591.7$$

$$UV= 472841054$$

Correlation co-efficient can be calculated by using following formula:

$$r = \frac{N \sum UV - \sum U \sum V}{\sqrt{[N \sum U^2 - (\sum U)^2] [N \sum V^2 - (\sum V)^2]}}$$

$$= \frac{5 \times 472841054 - (22357.74)(1055.16)}{\sqrt{[5 \times 990936158.5 - (22357.74)^2] [5 \times 251369591.7 - (1055.16)^2]}}$$

$$r = 0.9897086$$

$$r^2 = 0.97952312$$

Probable error of the correlation coefficient

$$\text{P.E. (r)} = 0.6745 \frac{1-r^2}{N}$$

$$= 0.6745 \frac{1-0.9724}{2.2361}$$

$$= 0.008$$

$$6 \text{ P.E. (r)} = 0.048$$

APPENDIX - XXXVI

Correlation between Total Loan & Advances and Total Net Profit

FY	Loan & Advance (X)	U= (X-15000)	U ²	Net Profit (Y)	V= (Y-300)	V ²	UV
2007/08	12,113.69	(2,886.31)	8330785.416	247.77	-52.23	2727.9729	150751.9713
2008/09	15,131.74	131.74	17355.43	316.37	16.37	267.9769	2156.58
2009/10	17,480.54	2480.54	6153078.69	391.74	91.74	8416.23	227564.74
2010/11	21,365.77	6365.77	40523027.69	464.56	164.56	27079.9936	1047551.11
2011/12	26,142.09	11142.09	124146169.57	480.10	180.1	32436.01	2006690.41
	Sum ()	17233.83	179170416.8	1900.54	400.54	70928.181	3434714.815

Now, We have,

$$N=5$$

$$U= 17233.83$$

$$U^2= 179170416.8$$

$$V= 400.54$$

$$V^2= 70928.181$$

$$UV= 3434714.815$$

Correlation co-efficient can be calculated by using following formula:

$$r = \frac{N \sum UV - \sum U \sum V}{\sqrt{[N \sum U^2 - (\sum U)^2] [N \sum V^2 - (\sum V)^2]}}$$

$$= \frac{5 \times (3434714.815) - (17233.83) (400.54)}{\sqrt{[5 \times 179170416.8 - (17233.83)^2] [5 \times 70928.181 - (400.54)^2]}}$$

$$r = 0.9523779$$

$$r^2 = 0.907023$$

Probable error of the correlation coefficient

$$P.E. (r) = 0.6745 \frac{1-r^2}{N}$$

$$= 0.6745 \frac{1-0.907023}{2.2361}$$

$$= 0.028$$

$$6 P.E.(r) = 0.168$$

APPENDIX - XXXVII

Correlation between Total Investment and Total Net Profit

FY	Investment (X)	U= (X-1000)	U ²	Net Profit (Y)	V= (Y-100)	V ²	UV
2007/08	3,088.88	2088.88	4363419.654	247.77	147.77	21835.9729	308673.7976
2008/09	13,286.18	12286.18	150950218.99	316.37	216.37	46815.9769	2658360.77
2009/10	16,305.63	15305.63	234262309.70	391.74	291.74	85112.23	4465264.50
2010/11	18,911.02	17911.02	320804637.44	464.56	364.56	132903.9936	6529641.45
2011/12	24,463.45	23463.45	550533485.90	480.10	380.1	144476.01	8918457.35
	sum ()	71055.16	1260914072	1900.54	1400.54	431144.181	22880397.86

Now, We have,

$$N=5$$

$$U= 71055.16$$

$$U^2= 1260914072$$

$$V=1400.54$$

$$V^2= 431144.181$$

$$UV= 22880397.86$$

Correlation co-efficient can be calculated by using following formula:

$$r = \frac{N \sum UV - \sum U \sum V}{\sqrt{[N \sum U^2 - (\sum U)^2] [N \sum V^2 - (\sum V)^2]}}$$

$$= \frac{5 \times 22880397.86 - (71055.16) (1400.54)}{\sqrt{[5 \times 1260914072 - (71055.16)^2] [5 \times 431144.181 - (1400.54)^2]}}$$

$$r = 0.95324905$$

$$r^2 = 0.90868374$$

Probable error of the correlation coefficient

$$\text{P.E. (r)} = 0.6745 \frac{1-r^2}{N}$$

$$= 0.6745 \frac{1-0.9086}{2.2361}$$

$$= 0.0275$$

$$6 \text{ P.E. (r)} = 0.165$$

