

Appendix I

Calculation of Correlation Coefficient between Deposits and Investments (NIBL)

Year	Deposits(x)	Investments(y)	x^2	y^2	xy
2006/07	24488.85	6505.67	599703774.3	42323742.15	159316376.78
2007/08	34451.72	6874.02	1186921011	47252150.96	236821812.31
2008/09	46698.10	7399.81	2180712544	54757188.04	345557067.36
2009/10	50094.72	8635.53	2509480972	74572378.38	432594457.40
2010/11	50138.12	7423.10	2513831077	55102413.61	372180278.57
2011/12	57010.60	10438.48	3250208512	108961864.7	595104007.89
Total	262882.11	47276.61	12240857890.26	382969737.85	2141574000.32

$$R_{xy} = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum x^2 - (\sum x)^2} \cdot \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 * 2141574000.32 - 262882.11 * 47276.61}{\sqrt{6 * 12240857890.26 - (262882.11)^2} \cdot \sqrt{6 * 382969737.85 - (47276.61)^2}}$$

$$= 0.8075$$

$$\text{Now P.Er} = 0.6745 * \frac{1 - r^2}{\sqrt{N}}$$

$$= 0.6745 * \frac{1 - (0.8075)^2}{\sqrt{6}}$$

$$= 0.0958$$

$$\text{Here, 6.P.Er} = 6 * 0.0958$$

$$= 0.5749$$

Calculation of Correlation Coefficient between Deposits and Investments (BOK)

Year	Deposits(x)	Investments(y)	x^2	y^2	xy
2006/07	12388.92	2992.43	153485338.77	8954637.30	37072975.88
2007/08	15833.73	3204.06	250707005.71	10266000.48	50732220.94
2008/09	18083.98	2783.59	327030332.64	7748373.29	50338385.89
2009/10	20315.83	3269.20	412732948.59	10687668.64	66416511.44
2010/11	21018.41	4286.59	441773558.93	18374853.83	90097306.12
2011/12	24991.44	5246.68	624572073.27	27527651.02	131122088.42
Total	112632.31	21782.55	2210301257.91	83559184.57	425779488.68

$$R_{xy} = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum x^2 - (\sum x)^2} \cdot \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 \cdot 425779488.68 - 112632.31 \cdot 21782.55}{\sqrt{6 \cdot 2210301257.91 - (112632.31)^2} \cdot \sqrt{6 \cdot 83559184.57 - (21782.55)^2}}$$

$$= 0.8140$$

$$\begin{aligned} \text{Now P.Er} &= 0.6745 \cdot \frac{1-r^2}{\sqrt{N}} \\ &= 0.6745 \cdot \frac{1-(0.8140)^2}{\sqrt{6}} \\ &= 0.0958 \end{aligned}$$

Here, 6.P.Er = 6 * 0.0958

$$= 0.5575$$

Appendix II

Calculation of Correlation Coefficient between Deposits and Loans and Advances(NIBL)

Year	Deposits(x)	Loan(y)	x^2	y^2	xy
2006/07	24488.85	17286.42	599703774.3	298820316.42	423324546.42
2007/08	34451.72	26996.65	1186921011	728819111.22	930081026.74
2008/09	46698.10	36241.20	2180712544	1313424577.44	1692395181.72
2009/10	50094.72	40318.30	2509480972	1625565314.89	2019733949.38
2010/11	50138.12	41098.51	2513831077	1689087524.22	2060602026.20
2011/12	57010.60	41636.99	3250208512	1733638936.26	2373749782.09
Total	262882.11	203578.07	12240857890.26	7389355780.45	9499886512.55

$$R_{xy} = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum x^2 - (\sum x)^2} \cdot \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 \times 9499886512.55 - 262882.11 \times 203578.07}{\sqrt{6 \times 12240857890.26 - (262882.11)^2} \cdot \sqrt{6 \times 7389355780.45 - (203578.07)^2}}$$

$$= 0.9831$$

$$\text{Now P.Er} = 0.6745 \times \frac{1-r^2}{\sqrt{N}}$$

$$= 0.6745 \times \frac{1-(0.9831)^2}{\sqrt{6}}$$

$$= 0.0092$$

$$\text{Here, 6.P.Er} = 6 \times 0.0092$$

$$= 0.553$$

Calculation of Correlation Coefficient between Deposits and Loans and Advances(BOK)

Year	Deposits(x)	Loan(y)	x^2	y^2	xy
2006/07	12388.92	9399.32	153485338.77	88347216.46	116447423.53
2007/08	15833.73	12462.63	250707005.71	155317146.5	197329918.51
2008/09	18083.98	14647.29	327030332.64	214543104.3	264881299.41
2009/10	20315.83	16664.93	412732948.59	277719891.9	338561884.84
2010/11	21018.41	17468.19	441773558.93	305137661.9	367153579.38
2011/12	24991.44	18813.93	624572073.27	353963962	470187202.76
Total	112632.31	89456.29	2210301257.91	1395028983.15	1754561308.44

$$R_{xy} = \frac{6 \cdot \sum XY - \sum X \sum Y}{\sqrt{N \sum x^2 - (\sum x)^2} \cdot \sqrt{N \sum y^2 - (\sum y)^2}}$$

$$= \frac{6 \cdot 1754561308.44 - 112632.31 \cdot 89456.29}{\sqrt{6 \cdot 2210301257.91 - (112632.31)^2} \cdot \sqrt{6 \cdot 1395028983.15 - (89456.29)^2}}$$

$$= 0.9816$$

$$\text{Now P.Er} = 0.6745 \cdot \frac{1-r^2}{\sqrt{N}}$$

$$= 0.6745 \cdot \frac{1-(0.9816)^2}{\sqrt{6}}$$

$$= 0.0100$$

$$\text{Here, 6.P.Er} = 6 \cdot 0.0100$$

$$= 0.0601$$

Appendix III

Calculation of Correlation Coefficient between Loans and Advances and Net Profit (NIBL)

Year	Loan (x)	Net Profit (y)	x^2	y^2	xy
2006/07	17286.42	501.39	298820316.42	251391.93	8667238.124
2007/08	26996.65	696.73	728819111.22	485432.69	18809375.95
2008/09	36241.20	900.61	1313424577.44	811098.37	32639187.13
2009/10	40318.30	1,265.94	1625565314.89	1602604.08	51040548.7
2010/11	41098.51	1,176.64	1689087524.22	1384481.69	48358150.81
2011/12	41636.99	1,039.27	1733638936.26	1080082.13	43272074.6
Total	203578.07	5,580.58	7389355780.45	5615090.903	202786575.3

$$R_{xy} = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum x^2 - (\sum x)^2} \cdot \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 * 202786575.3 - 203578.07 * 5,580.58}{\sqrt{6 * 7389355780.45 - (203578.07)^2} \cdot \sqrt{6 * 5615090.903 - (5,580.58)^2}}$$

$$= 0.9394$$

$$\begin{aligned} \text{Now P.Er} &= 0.6745 * \frac{1-r^2}{\sqrt{N}} \\ &= 0.6745 * \frac{1-(0.9394)^2}{\sqrt{6}} \\ &= 0.0324 \end{aligned}$$

Here, 6.P.Er = 6 * 0.0324

$$= 0.1942$$

Calculation of Correlation Coefficient between Loans and Advances and Net Profit (BOK)

Year	Loan (x)	Net Profit (y)	x^2	y^2	xy
2006/07	9399.32	262.38	88347216.46	68843.26	2466193.582
2007/08	12462.63	361.49	155317146.5	130675.02	4505116.119
2008/09	14647.29	461.73	214543104.3	213194.59	6763093.212
2009/10	16664.93	509.26	277719891.9	259345.75	8486782.252
2010/11	17468.19	605.15	305137661.9	366206.52	10570875.18
2011/12	18813.93	607.66	353963962	369250.68	11432472.7
Total	89456.29	2,807.67	1395028983.15	1407515.82	44224533.05

$$R_{xy} = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum x^2 - (\sum x)^2} \cdot \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 \cdot 44224533.05 - 89456.29 \cdot 2,807.67}{\sqrt{6 \cdot 1395028983.15 - (89456.29)^2} \cdot \sqrt{6 \cdot 1407515.82 - (2,807.67)^2}}$$

$$= 0.9865$$

$$\text{Now P.Er} = 0.6745 \cdot \frac{1-r^2}{\sqrt{N}}$$

$$= 0.6745 \cdot \frac{1-(0.9865)^2}{\sqrt{6}}$$

$$= 0.0074$$

$$\text{Here, 6.P.Er} = 6 \cdot 0.0074$$

$$= 0.0442$$

Appendix IV

Calculation of Correlation Coefficient between Investments and Net Profit (NIBL)

Year	Investments (x)	Net Profit (y)	x^2	y^2	xy
2006/07	6505.67	501.39	42323742.15	251391.93	3261877.881
2007/08	6874.02	696.73	47252150.96	485432.69	4789335.955
2008/09	7399.81	900.61	54757188.04	811098.37	6664342.884
2009/10	8635.53	1,265.94	74572378.38	1602604.08	10932062.85
2010/11	7423.10	1,176.64	55102413.61	1384481.69	8734316.384
2011/12	10438.48	1,039.27	108961864.7	1080082.13	10848399.11
Total	47276.61	5,580.58	382969737.8	5615090.903	45230335.06

$$R_{xy} = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum x^2 - (\sum x)^2} \cdot \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 \cdot 45230335.06 - 47276.61 \cdot 5,580.58}{\sqrt{6 \cdot 382969737.8 - (47276.61)^2} \cdot \sqrt{6 \cdot 5615090.903 - (5,580.58)^2}}$$

$$= 0.5973$$

$$\text{Now P.Er} = 0.6745 \cdot \frac{1-r^2}{\sqrt{N}}$$

$$= 0.6745 \cdot \frac{1-(0.5973)^2}{\sqrt{6}}$$

$$= 0.01771$$

$$\text{Here, 6.P.Er} = 6 \cdot 0.01771$$

$$= 1.0628$$

Calculation of Correlation Coefficient between Investments and Net Profit (BOK)

Year	Investments (x)	Net Profit (y)	x^2	y^2	xy
2006/07	2992.43	262.38	8954637.305	68843.26	785153.7834
2007/08	3204.06	361.49	10266000.48	130675.02	1158235.649
2008/09	2783.59	461.73	7748373.288	213194.59	1285267.011
2009/10	3269.20	509.26	10687668.64	259345.75	1664872.792
2010/11	4286.59	605.15	18374853.83	366206.52	2594029.939
2011/12	5246.68	607.66	27527651.02	369250.68	3188197.569
Total	21782.55	2,807.67	83559184.57	1407515.82	10675756.74

$$R_{xy} = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum x^2 - (\sum x)^2} \cdot \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 \cdot 10675756.74 - 21782.55 \cdot 2,807.67}{\sqrt{6 \cdot 83559184.57 - (21782.55)^2} \cdot \sqrt{6 \cdot 1407515.82 - (2,807.67)^2}}$$

$$= 0.7452$$

$$\text{Now P.Er} = 0.6745 \cdot \frac{1-r^2}{\sqrt{N}}$$

$$= 0.6745 \cdot \frac{1-(0.7452)^2}{\sqrt{6}}$$

$$= 0.1225$$

$$\text{Here, 6.P.Er} = 6 \cdot 0.1225$$

$$= 0.7347$$

Appendix V

Calculation of Correlation Coefficient between Total Deposit of NIBL and BOK

Year	Dep (NIBL) (x)	Dep (BOK) (y)	x^2	y^2	xy
2006/07	24488.85	12388.92	599703774.3	153485338.8	303390403.5
2007/08	34451.72	15833.73	1186921011	250707005.7	545499232.5
2008/09	46698.10	18083.98	2180712544	327030332.6	844487506.4
2009/10	50094.72	20315.83	2509480972	412732948.6	1017715815
2010/11	50138.12	21018.41	2513831077	441773558.9	1053823563
2011/12	57010.60	24991.44	3250208512	624572073.3	1424776989
Total	262882.11	112632.31	12240857890	2210301258	5189693510

$$R_{xy} = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum x^2 - (\sum x)^2} \cdot \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 \cdot 5189693510 - 262882.11 \cdot 112632.31}{\sqrt{6 \cdot 12240857890 - (262882.11)^2} \cdot \sqrt{6 \cdot 2210301258 - (112632.31)^2}}$$

$$= 0.9675$$

$$\begin{aligned} \text{Now P.Er} &= 0.6745 \cdot \frac{1-r^2}{\sqrt{N}} \\ &= 0.6745 \cdot \frac{1-(0.9675)^2}{\sqrt{6}} \\ &= 0.0176 \end{aligned}$$

$$\text{Here, 6.P.Er} = 6 \cdot 0.0176$$

$$= 0.1055$$

Appendix VI

Calculation of Correlation Coefficient Total Investments of NIBL and BOK

Year	Investments NIBL (x)	Investments BOK (y)	x^2	y^2	xy
2006/07	6505.67	2992.43	42323742.15	8954637.305	19467762.08
2007/08	6874.02	3204.06	47252150.96	10266000.48	22024772.52
2008/09	7399.81	2783.59	54757188.04	7748373.288	20598037.12
2009/10	8635.53	3269.20	74572378.38	10687668.64	28231274.68
2010/11	7423.10	4286.59	55102413.61	18374853.83	31819786.23
2011/12	10438.48	5246.68	108961864.7	27527651.02	54767364.25
Total	47276.61	21782.55	382969737.8	83559184.57	176908996.9

$$R_{xy} = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum x^2 - (\sum x)^2} \cdot \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 \cdot 176908996.9 - 47276.61 \cdot 21782.55}{\sqrt{6 \cdot 382969737.8 - (47276.61)^2} \cdot \sqrt{6 \cdot 83559184.57 - (21782.55)^2}}$$

$$= 0.771$$

$$\text{Now P.Er} = 0.6745 \cdot \frac{1-r^2}{\sqrt{N}}$$

$$= 0.6745 \cdot \frac{1-(0.771)^2}{\sqrt{6}}$$

$$= 0.1118$$

$$\text{Here, 6.P.Er} = 6 \cdot 0.1118$$

$$= 0.6708$$

Appendix VII

Calculation of Correlation Coefficient between Loan and Advances of NIBL and BOK

Year	Loan (NIBL) (x)	Loan (BOK) (y)	x^2	y^2	xy
2006/07	17286.42	9399.32	298820316.4	88347216.46	162480593.2
2007/08	26996.65	12462.63	728819111.2	155317146.5	336449260.2
2008/09	36241.20	14647.29	1313424577	214543104.3	530835366.3
2009/10	40318.30	16664.93	1625565315	277719891.9	671901647.2
2010/11	41098.51	17468.19	1689087524	305137661.9	717916581.4
2011/12	41636.99	18813.93	1733638936	353963962	783355415.3
Total	203578.07	89456.29	7389355780	1395028983	3202938864

$$R_{xy} = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum x^2 - (\sum x)^2} \cdot \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 * 3202938864 - 203578.07 * 89456.29}{\sqrt{6 * 7389355780 - (203578.07)^2} \cdot \sqrt{6 * 1395028983 - (89456.29)^2}}$$

$$= 0.9758$$

$$\text{Now P.Er} = 0.6745 * \frac{1-r^2}{\sqrt{N}}$$

$$= 0.6745 * \frac{1-(0.9758)^2}{\sqrt{6}}$$

$$= 0.0132$$

$$\text{Here, 6.P.Er} = 6 * 0.0176$$

$$= 0.0791$$

Appendix VIII

Calculation of Correlation Coefficient Net Profit of NIBL and BOK

Year	Net Profit NIBL (x)	Net Profit BOK (y)	x^2	y^2	xy
2006/07	501.39	262.38	251391.9321	68843.2644	131554.7082
2007/08	696.73	361.49	485432.6929	130675.0201	251860.9277
2008/09	900.61	461.73	811098.3721	213194.5929	415838.6553
2009/10	1,265.94	509.26	1602604.084	259345.7476	644692.6044
2010/11	1,176.64	605.15	1384481.69	366206.5225	712043.696
2011/12	1,039.27	607.66	1080082.133	369250.6756	631522.8082
Total	5,580.58	2,807.67	5615090.90	1407515.82	2787513.40

$$R_{xy} = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum x^2 - (\sum x)^2} \cdot \sqrt{N\sum y^2 - (\sum y)^2}}$$

$$= \frac{6 \cdot 2787513.40 - 5,580.58 \cdot 2,807.67}{\sqrt{6 \cdot 5615090.90 - (5,580.58)^2} \cdot \sqrt{6 \cdot 1407515.82 - (2,807.67)^2}}$$

$$= 0.7796$$

$$\text{Now P.Er} = 0.6745 \cdot \frac{1-r^2}{\sqrt{N}}$$

$$= 0.6745 \cdot \frac{1-(0.771)^2}{\sqrt{6}}$$

$$= 0.0606$$

$$\text{Here, } 6 \cdot \text{P.Er} = 6 \cdot 0.0606$$

$$= 0.3639$$