

Appendix-I

1.1 Monthly NEPSE Index

Year Month	2004/05	2005/06	2006/07	2007/08	2008/09
Aug.	241.51	300.05	389.23	697.8	1084.76
Sep.	234.58	293.35	382.56	767.92	976.01
Oct.	231.31	297.34	398.44	867.94	933.97
Nov.	235.08	302.39	447.43	881.39	806.9
Dec.	236.38	303.12	508.58	922.90	734.85
Jan.	239.61	305.50	537.09	1005.94	659.81
Feb.	257.29	317.79	523.94	824.63	663.52
Mar.	280.65	339.79	494.06	759.39	667.2
Apr.	293.26	334.77	494.59	717.34	661.27
May.	285.42	385.89	513.45	747.99	660.96
June	277.79	372.01	575.04	856.77	678.74
July	286.67	386.83	683.95	944.31	749.10

1.2 Sector wise NEPSE Index (Yearly)

Year Sector	2004/05	2005/06	2006/07	2007/08	2008/09
Com. bank	304.64	437.49	789.21	1011.09	764.48
Finance	228.39	261.37	471.82	1159.18	692.19
Insurance	320.24	381.25	612.46	819.94	657.99
Hotel	178	180.77	251.47	360.15	367.99
Mfg&pro.	276.5	301.11	348.63	423.66	434.32
Trading	123.2	148.11	155.37	204.08	295.83
Dev. Bank	237.86	294.40	539.66	1346.36	764.01
Others	347.65	410.00	1666.05	1040.32	876.66

Appendix-II

2.1 Monthly Equity share price of HBL

Year Month	2004/05	2005/06	2006/07	2007/08	2008/09
Aug.	945	1040	1100	1765	1765
Sep.	915	950	1045	2140	2450
Oct.	875	1000	1102	2310	2450
Nov.	885	1070	1262	1800	2100
Dec.	925	1140	1300	2800	1850
Jan.	980	940	1210	1995	1640
Feb.	1001	972	1150	1623	1469
Mar.	1101	1045	1020	1420	1535
Apr.	1036	1005	1100	1500	1560
May.	950	1150	1190	1730	1500
June	890	1095	1360	1865	1610
July	920	1100	1760	1980	1760

2.2 Monthly Equity share price of MBL

Year Month	2004/05	2005/06	2006/07	2007/08	2008/09
Aug.	131	290	330	590	433
Sep.	135	276	333	680	800
Oct.	145	283	340	775	880
Nov.	146	303	405	892	740
Dec.	149	328	485	1216	660
Jan.	194	320	496	1410	520
Feb.	188	343	468	1220	455
Mar.	280	344	430	1055	495
Apr.	283	324	430	1096	480
May.	270	415	433	1150	475
Jun.	256	331	490	1335	412
Jul.	256	320	620	1265	489

2.3 Monthly Equity share of CIT

Year Month	2004/05	2005/06	2006/07	2007/08	2008/09
Aug.	169	205	275	-	721
Sep.	177	200	288	-	463
Oct.	-	200	288	-	-
Nov.	178	215	290	-	472
Dec.	190	215	-	359	490
Jan.	173	210	290	-	415
Feb.	165	205	300	-	490
Mar.	160	279	315	329	508
Apr.	184	292	315	380	546
May.	185	278	291	399	654
Jun.	199	262	336	-	670
Jul.	200	266	352	438	730

2.4 Monthly equity share price of Pokhara Finance Ltd.

Year Month	2004/05	2005/06	2006/07	2007/08	2008/09
Aug.	285	365	400	400	443
Sep.	324	-	400	-	700
Oct.	374	365	-	-	748
Nov.	374	-	-	-	792
Dec.	374	-	400	-	831
Jan.	375	-	402	459	415
Feb.	365	325	400	486	342
Mar.	365	325	400	495	442
Apr.	-	400	400	524	489
May.	365	410	-	576	475
Jun.	-	410	400	509	414
Jul.	365	410	400	657	442

2.5 Monthly equity share price of NICL

Year Month	2004/05	2005/06	2006/07	2007/08	2008/09
Aug.	375	388	400	350	-
Sep.	366	441	-	-	-
Oct.	366	435	380	-	-
Nov.	-	435	380	-	364
Dec.	366	420	380	350	360
Jan.	370	-	380	-	-
Feb.	370	430	375	-	360
Mar.	370	430	-	-	367
Apr.	370	450	-	345	-
May.	360	405	357	351	-
Jun.	340	405	-	355	-
Jul.	370	405	357	350	-

2.6 Monthly equity share price of UNL

Year Month	2004/05	2005/06	2006/07	2007/08	2008/09
Aug.	1400	1932	2677	3401	4261
Sep.	1450	2200	2900	3450	4452
Oct.	1350	-	2850	-	4363
Nov.	1468	-	2750	-	4276
Dec.	1450	1850	2800	3450	4275
Jan.	1500	1900	2900	3587	-
Feb.	1500	2240	-	3658	3723
Mar.	1550	2250	3450	3749	-
Apr.	1630	2250	3100	3875	4200
May	1630	2250	-	3840	4263
Jun.	1630	2401	3250	3960	4250
Jul.	1630	2500	3400	4100	4250

2.7 Monthly equity share price of TRHL.

Year Month	2004/05	2005/06	2006/07	2007/08	2008/09
Aug.	42	43	43	57	79
Sep.	42	-	41	59	70
Oct.	38	40	41	58	-
Nov.	38	40	-	-	70
Dec.	38	40	41	-	-
Jan.	39	-	41	61	-
Feb	38	40	43	62	77
Mar.	41	-	45	63	-
Apr.	40	-	45	66	78
May.	40	40	47	67	-
Jun.	40	43	51	68	-
Jul.	40	43	55	68	-

2.8 Monthly equity share price of BBCL

Year Month	2004/05	2005/06	2006/07	2007/08	2008/09
Aug.	1400	2000	2400	2701	3100
Sep.	1470	2152	2450	2700	2277
Oct.	1470	2150	2430	2700	2322
Nov.	-	2150	-	2700	2390
Dec.	1470	2150	2430	2754	2181
Jan.	1470	2301	2400	-	2855
Feb.	1470	2400	2400	2700	2311
Mar.	1544	2280	2450	2500	2310
Apr.	1800	2271	2400	2070	2310
May	1800	2384	2450	2142	2550
Jun.	1942	2200	2572	2300	3100
Jul.	1925	2400	2575	2201	3264

2.9 Monthly equity share price of NUBL. (Nirdhan Utthan Bank Ltd.)

Year Month	2004/05	2005/06	2006/07	2007/08	2008/09
Aug.	90	115	100	110	189
Sep.	90	111	103	-	148
Oct.	86	110	-	113	-
Nov.	-	106	102	114	148
Dec.	83	107	-	-	150
Jan.	-	104	-	-	220
Feb.	80	100	-	-	150
Mar.	84	100	-	-	-
Apr.	84	100	-	116	-
May.	84	100	105	114	165
Jun.	85	100	105	-	180
Jul.	100	100	110	134	183

2.10 Monthly equity share price of (BPCL)

Year Month	2004/05	2005/06	2006/07	2007/08	2008/09
Aug.	-	470	565	1420	1063
Sep.	-	450	560	1750	-
Oct.	-	450	-	1750	1290
Nov.	-	475	638	1681	1279
Dec.	-	460	735	1640	1112
Jan.	-	500	845	1640	780
Feb.	478	483	750	1480	920
Mar.	478	470	725	1165	933
Apr.	460	490	815	1111	980
May.	460	540	830	1201	994
Jun.	470	540	901	1340	910
Jul.	490	540	1000	1559	1270

2.11 Yearly closing share price of sample companies

Year Company	2004/05	2005/06	2006/07	2007/08	2008/09
HBL	920	1100	1760	1980	1760
MBL	256	320	620	1265	489
CIT	200	266	352	438	730
PFL	365	410	400	657	442
NICL	370	405	357	350	367
UNL	1630	2500	3400	4100	4250
TRHL	40	43	55	68	78
BBCL	1925	2400	2575	2201	3264
NUBL	100	100	110	134	183
BPCL	490	540	1000	1559	1270

Appendix-III

3.1 Contribution of sample co. on total market capitalization (in million)

SN	Year Comp	2004/05		2005/06		2006/07		2007/08		2008/09	
		value	percent	value	percent	value	percent	value	percent	value	percent
1	HBL	4830	35	8494.2	45.24	14270.26	43.53	16054	35.38	13054.04	42.26
2	MBL	1408	10.20	1760	9.37	5094.24	15.53	10393.9	22.91	4017.87	13.01
3	CIT	80	0.58	106.4	0.56	140.8	0.43	175.2	0.39	268	0.87
4	PFL	73	0.53	164	0.87	240	0.73	394.2	0.87	248.40	0.80
5	NICL	292.3	2.11	415.93	2.21	366.63	1.12	359.4	0.79	220	0.71
6	UNL	1973.51	14.30	2301.75	12.25	3130.38	9.55	3774.9	8.32	3913	12.67
7	TRHL	298	2.16	320.34	1.7	409.74	1.25	506.5	1.12	588.54	1.91
8	BBCL	719.89	5.21	655.2	3.48	702.98	2.14	600.9	1.32	891.07	2.88
9	NUBL	10	0.072	27.43	0.14	36.17	0.11	36.8	0.081	50.20	0.16
10	BPCL	4111.38	29.80	4530.91	24.13	8390.58	25.6	13080.9	28.83	7635.43	24.72
Total		13796.08	100	18776.16	100	32781.78	100	45376.7	100	30886.55	100

Appendix-IV

**Calculation of Mean Deviation between before and after the event (d)
and standard deviation(S_d)with (n-1) degree of freedom.**

Appendix 4.1

**Table for NEPSE index before and after the entry of 22
parties on Government at Ashadh-1(15 June, 2009)**

No.of days	Index before 10 days (X1)	Index After 10 days (X2)	d (X1-X2)	d ²
1	703.01	681.83	21.18	448.5924
2	699.62	682.80	16.82	282.9124
3	698.88	683.71	15.17	230.1289
4	685.61	679.23	6.38	40.7044
5	679.73	678.52	1.21	1.4641
6	684.88	671.47	13.41	179.8281
7	686.07	670.25	15.82	250.2724
8	684.39	670.61	13.78	189.8884
9	678.74	666.35	12.39	153.5121
10	676.41	663.96	12.45	155.0025
N=10	Total		∑d=128.61	∑d ² =1932.3057

$$\begin{aligned} \bar{d} &= \frac{\sum d}{n} \\ &= \frac{128.61}{10} \\ &= 12.861 \end{aligned}$$

$$\begin{aligned} Sd &= \sqrt{\frac{1}{n-1} [\sum d^2 - \frac{(\sum d)^2}{n}]} \\ &= \sqrt{\frac{1}{10-1} [1932.3057 - \frac{(128.61)^2}{10}]} \\ &= \sqrt{\frac{1}{9} \cdot 278.2525} \\ &= \sqrt{30.916944} \\ Sd &= 5.5603 \end{aligned}$$

Appendix 4.2

Table for NEPSE index before and after the entry of Maoist on Government at chaitra-18 (1st April 2007)

No.of days	Index before 10 days (X1)	Index After 10 days (X2)	d (X1-X2)	d ²
1	496.64	507.46	-10.82	117.0724
2	500.72	501.67	-0.95	0.9025
3	500.12	491.61	8.51	72.4201
4	494.06	488.93	5.13	26.3169
5	493.88	488.22	5.66	32.0356
6	492.32	487.43	4.89	23.9121
7	491.47	487.01	4.46	19.8916
8	488.53	489.03	-0.5	0.25
9	482.52	494.59	-12.07	145.6849
10	480.99	497.73	-16.74	280.2276
N=10	Total		∑d = - 12.43	∑d ² =718.7137

$$\bar{d} = \frac{\sum d}{n}$$

$$= \frac{-12.43}{10}$$

$$= -1.243$$

$$Sd = \sqrt{\frac{1}{n-1} [\sum d^2 - \frac{(\sum d)^2}{n}]}$$

$$= \sqrt{\frac{1}{10-1} [718.7137 - \frac{(-12.43)^2}{10}]}$$

$$= \sqrt{\frac{1}{9}} * 703.26321$$

$$= \sqrt{78.14035}$$

$$Sd = 8.8397$$

Appendix 4.3
Table for NEPSE Index before and after Jan Andolan-2

No.of days	Index before 10 days (X1)	Index After 10 days (X2)	d (X1-X2)	d ²
1	337.99	338.54	-0.55	0.3025
2	337.45	343.28	-5.83	33.9889
3	337.57	361.58	-24.01	576.4801
4	337.52	374.87	-37.35	1395.0225
5	336.71	372.45	-35.74	1277.3476
6	334.88	367.99	-33.11	1096.2721
7	334.15	366.94	-32.79	1075.1841
8	334.77	368.68	-33.91	1149.8881
9	334.27	370.05	-35.78	1280.2084
10	331.8	375.15	-43.35	1879.2225
N=10	Total		$\sum d = -282.42$	$\sum d^2 = 9763.9168$

$$\begin{aligned} \bar{d} &= \frac{\sum d}{n} \\ &= \frac{-282.42}{10} \\ &= -28.242 \end{aligned}$$

$$\begin{aligned} Sd &= \sqrt{\frac{1}{n-1} [\sum d^2 - \frac{(\sum d)^2}{n}]} \\ &= \sqrt{\frac{1}{10-1} [9763.9168 - \frac{(-282.42)^2}{10}]} \\ &= \sqrt{\frac{1}{9} (1787.8112)} \\ &= \sqrt{198.64568} \\ Sd &= 14.0941 \end{aligned}$$

Appendix-4.4

Table for NEPSE index before and after the Royal Moved on Government:

No. of days	Index before 10 days (X1)	Index After 10 days (X2)	d (X1-X2)	d ²
1	240.01	246.94	-6.93	48.0249
2	240.34	248.03	-7.69	59.1361
3	240.72	250.76	-10.04	100.8016
4	242.11	251.02	-8.91	79.3881
5	243.76	251.68	-7.92	62.7264
6	245.25	251.88	-6.63	43.9569
7	246.84	253.94	-7.1	50.41
8	247.17	257.29	-10.12	102.4144
9	246.98	259.05	-12.07	145.6849
10	247.41	264.73	-17.32	299.9824
N=10	Total		∑d=-94.73	∑d ² =992.5257

$$\begin{aligned} \bar{d} &= \frac{\sum d}{n} \\ &= \frac{-94.73}{10} \\ &= -9.473 \end{aligned}$$

$$\begin{aligned} Sd &= \sqrt{\frac{1}{n-1} [\sum d^2 - \frac{(\sum d)^2}{n}]} \\ &= \sqrt{\frac{1}{10-1} [992.5257 - \frac{(-94.73)^2}{10}]} \\ &= \sqrt{\frac{1}{9} * 95.1484} \\ &= \sqrt{10.572} \\ Sd &= 3.2515 \end{aligned}$$

Appendix 4.5

Table for NEPSE index before and after Nepal's entry in WTO.

No. of days	Index before 10 days (X1)	Index After 10 days (X2)	d (X1-X2)	d ²
1	206.52	207.54	-1.02	1.0404
2	205.32	208.00	-2.68	7.1824
3	203.18	208.32	-5.14	26.4196
4	202.41	208.46	-6.05	36.6025
5	201.65	208.17	-6.42	41.2164
6	202.45	207.58	-5.13	26.3169
7	204.44	207.43	-2.99	8.9401
8	204.36	207.41	-3.05	9.3025
9	205.02	206.58	-1.56	2.4336
10	206.11	206.59	-0.84	0.2304
N=10	Total		∑d=-34.88	∑d ² =159.6848

$$\begin{aligned} \bar{d} &= \frac{\sum d}{n} \\ &= \frac{-34.88}{10} \\ &= -3.488 \end{aligned}$$

$$\begin{aligned} Sd &= \sqrt{\frac{1}{n-1} [\sum d^2 - \frac{(\sum d)^2}{n}]} \\ &= \sqrt{\frac{1}{10-1} [159.6848 - \frac{(-34.88)^2}{10}]} \\ &= \sqrt{\frac{1}{9} [159.6848 - 121.6614]} \\ &= \sqrt{4.2248} \\ Sd &= 2.0554 \end{aligned}$$

Appendix V
Calculation of Correlation Coefficient and Regression Equations

Appendix 5.1

Calculation of correlation coefficient between NEPSE index before and after the entry of 22 parties on Government

Index before 10 days(X1)	Index after 10 days(X2)	x1=X1- \bar{X}_1	x2=X2- \bar{X}_2	x1x2	x1 ²	x2 ²
703.01	681.83	15.276	6.957	106.27513	233.35618	48.399849
699.62	682.80	11.886	7.927	94.220322	141.277	62.837329
698.88	683.71	11.146	8.837	98.497202	124.23332	78.092569
685.61	679.23	-2.124	4.357	-9.254268	4.511376	18.983449
679.73	678.52	-8.004	3.647	-29.190588	64.064016	13.300609
684.88	671.47	-2.854	-3.403	9.712162	8.145316	11.580409
686.07	670.25	-1.664	-4.623	7.692672	2.768896	21.372129
684.39	670.61	-3.344	-4.263	14.255472	11.11556	18.173169
678.74	666.35	-8.994	-8.523	76.655862	80.892036	72.641529
676.41	663.96	-11.324	-10.913	123.57881	128.23298	119.09357
$\sum X_1 =$ 6877.34	$\sum X_2 =$ 6748.73			$\sum x_1 \times x_2 =$ 492.44278	$\sum x_1^2 =$ 798.59668	$\sum x_2^2 =$ 464.47461

$$\bar{X}_1 = \frac{\sum X_1}{n}$$

$$= \frac{6877.34}{10}$$

$$= 687.734$$

$$\bar{X}_2 = \frac{\sum X_2}{n}$$

$$= \frac{6748.73}{10}$$

$$= 674.873$$

Karl Pearson's correlation coefficient is given by:

$$r_{12} = \frac{\sum x_1 \times x_2}{\sqrt{\sum x_1^2 \times \sum x_2^2}}$$

$$= \frac{492.44278}{\sqrt{798.59668 \times 464.47461}}$$

$$= 0.8085577$$

$$P.E. = 0.6745 \times \frac{1-r^2}{\sqrt{n}}$$

$$= 0.6745 \times \frac{1-(0.8085577)^2}{\sqrt{10}}$$

$$= 0.0738502$$

Appendix 5.2
Calculation of correlation coefficient between NEPSE index before and after the entry of Maoist on Government

Index before 10 days(X1)	Index after 10 days(X2)	$x1=X1-\bar{X1}$	$x2=X2-\bar{X2}$	$x1 \times x2$	$x1^2$	$x2^2$
496.64	507.46	4.515	14.092	63.62538	20.385225	198.584464
500.72	501.67	8.595	8.302	71.35569	73.874025	68.923204
500.12	491.61	7.995	-1.758	-14.05521	63.920025	3.090564
494.06	488.93	1.935	-4.438	-8.58753	3.744225	19.695844
493.88	488.22	1.755	-5.148	-9.03474	3.080025	26.501904
492.32	487.43	0.195	-5.938	-1.15791	0.038025	35.259844
491.47	487.01	-0.655	-6.358	4.16449	0.429025	40.424164
488.53	489.03	-3.595	-4.338	15.59511	12.924025	18.818244
482.52	494.59	-9.605	1.222	-11.73731	92.256025	1.493284
480.99	497.73	-11.135	4.362	-48.57087	123.988225	19.027044
$\sum X1 = 4921.25$	$\sum X2 = 4933.68$			$\sum x1 \times x2 = 61.5971$	$\sum x1^2 = 394.63885$	$\sum x2^2 = 431.81856$

$$\bar{X}_1 = \frac{\sum X_1}{n}$$

$$= \frac{4921.25}{10}$$

$$= 492.125$$

$$\bar{X}_2 = \frac{\sum X_2}{n}$$

$$= \frac{4933.68}{10}$$

$$= 493.368$$

Karl Pearson's correlation coefficient is given by:

$$r_{12} = \frac{\sum x_1 \times x_2}{\sqrt{\sum x_1^2 \times \sum x_2^2}}$$

$$= \frac{61.5971}{\sqrt{394.63885 \times 431.81856}}$$

$$= 0.149214$$

$$P.E. = 0.6745 \times \frac{1-r^2}{\sqrt{n}}$$

$$= 0.6745 \times \frac{1-(0.149214)^2}{\sqrt{10}}$$

$$= 0.2085$$

Appendix 5.3

Calculation of correlation coefficient between NEPSE index before and after the Jan Andolan-2

Index before 10 days(X1)	Index after 10 days(X2)	$x1=X1-\bar{X}1$	$x2=X2-\bar{X}2$	$x1 \times x2$	$x1^2$	$x2^2$
337.99	338.54	2.279	-25.413	-57.916227	5.193841	645.82057
337.45	343.28	1.739	-20.673	-35.950347	3.024121	427.37293
337.57	361.58	1.859	-2.373	-4.411407	3.455881	5.631129
337.52	374.87	1.809	10.917	19.748853	3.272481	119.18089
336.71	372.45	0.999	8.497	8.488503	0.998001	72.199009
334.88	367.99	-0.831	4.037	-3.354747	0.690561	16.297369
334.15	366.94	-1.561	2.987	-4.662707	2.436721	8.922169
334.77	368.68	-0.941	4.727	-4.448107	0.885481	22.344529
334.27	370.05	-1.441	6.097	-8.785777	2.076481	37.173409
331.8	375.15	-3.911	11.197	-43.791467	15.295921	125.37281
$\sum X1 =$ 3357.11	$\sum X2 =$ 3639.53			$\sum x1 \times x2 =$ -135.08343	$\sum x1^2 =$ 37.32949	$\sum x2^2 =$ 1480.3148

$$\bar{X}_1 = \frac{\sum X_1}{n}$$

$$= \frac{3357.11}{10}$$

$$= 335.711$$

$$\bar{X}_2 = \frac{\sum X_2}{n}$$

$$= \frac{3639.53}{10}$$

$$= 363.953$$

Karl Pearson's correlation coefficient is given by:

$$r_{12} = \frac{\sum x_1 \times x_2}{\sqrt{\sum x_1^2 \times \sum x_2^2}}$$

$$= \frac{-135.08343}{\sqrt{37.32949 \times 1480.3148}}$$

$$= -0.5746$$

$$P.E. = 0.6745 \times \frac{1-r^2}{\sqrt{n}}$$

$$= 0.6745 \times \frac{1-(-0.5746)^2}{\sqrt{10}}$$

$$= 0.14287$$

Appendix 5.4

Calculation of correlation coefficient between NEPSE index before and after the Royal move on Government

Index before 10 days(X1)	Index after 10 days(X2)	$x1=X1-\bar{X}1$	$x2=X2-\bar{X}2$	$x1 \times x2$	$x1^2$	$x2^2$
240.01	246.94	-4.049	-10.192	41.267408	16.394401	103.8769
240.34	248.03	-3.719	-9.102	33.850338	13.830961	82.8464
240.72	250.76	-3.339	-6.372	21.276108	11.148921	40.60238
242.11	251.02	-1.949	-6.112	11.912288	3.798601	37.35654
243.76	251.68	-0.299	-5.452	1.630148	0.089401	29.7243
245.25	251.88	1.191	-5.252	-6.255132	1.418481	27.5835
246.84	253.94	2.781	-3.192	-8.876952	7.733961	10.18886
247.17	257.29	3.111	0.158	0.491538	9.678321	0.024964
246.98	295.05	2.921	37.918	110.758478	8.532241	1437.775
247.41	264.73	3.351	7.598	25.460898	11.229201	57.7296
$\sum X1 =$ 2440.59	$\sum X2 =$ 2571.32			$\sum x1 \times x2 =$ 231.51512	$\sum x1^2 =$ 83.85449	$\sum x2^2 =$ 1827.708

$$\begin{aligned} \bar{X}_1 &= \frac{\sum X_1}{n} \\ &= \frac{2440.59}{10} \end{aligned}$$

$$= 244.059$$

$$\begin{aligned} \bar{X}_2 &= \frac{\sum X_2}{n} \\ &= \frac{2571.32}{10} \end{aligned}$$

$$= 257.134$$

Karl Pearson's correlation coefficient is given by:

$$\begin{aligned} r_{12} &= \frac{\sum x_1 \times x_2}{\sqrt{\sum x_1^2 \times \sum x_2^2}} \\ &= \frac{231.51512}{\sqrt{83.85449 \times 1827.708}} \\ &= 0.59137 \end{aligned}$$

$$\begin{aligned} \text{P.E.} &= 0.6745 \times \frac{1-r^2}{\sqrt{n}} \\ &= 0.6745 \times \frac{1-(0.59137)^2}{\sqrt{10}} \\ &= 0.1387 \end{aligned}$$

Appendix 5.5

Calculation of correlation coefficient between NEPSE index before and after Nepal's entry in WTO

Index before 10 days(X1)	Index after 10 days(X2)	$x1=X1-\bar{X1}$	$x2=X2-\bar{X2}$	$x1 \times x2$	$x1^2$	$x2^2$
206.52	207.54	2.374	-0.068	-0.161432	5.635876	0.004624
205.32	208	1.174	0.392	0.460208	1.378276	0.153664
203.18	208.32	-0.966	0.712	-0.687792	0.933156	0.506944
202.41	208.46	-1.736	0.852	-1.479072	3.013696	0.725904
201.65	208.17	-2.496	0.562	-1.402752	6.230016	0.315844
202.45	207.58	-1.696	-0.028	0.047488	2.876416	0.000784
204.44	207.43	0.294	-0.178	-0.052332	0.086436	0.031684
204.36	207.41	0.214	-0.198	-0.042372	0.045796	0.039204
205.02	206.58	0.874	-1.028	-0.898472	0.763876	1.056784
206.11	206.59	1.964	-1.018	-1.999352	3.857296	1.036324
$\sum X1 =$ 2041.46	$\sum X2 =$ 2076.08			$\sum x1 \times x2 =$ -6.21588	$\sum x1^2 =$ 24.82084	$\sum x2^2 =$ 3.87176

$$\begin{aligned} \bar{X}_1 &= \frac{\sum X_1}{n} \\ &= \frac{2041.46}{10} \end{aligned}$$

$$= 204.146$$

$$\begin{aligned} \bar{X}_2 &= \frac{\sum X_2}{n} \\ &= \frac{2076.408}{10} \end{aligned}$$

$$= 207.6408$$

Karl Pearson's correlation coefficient is given by:

$$\begin{aligned} r_{12} &= \frac{\sum x_1 \times x_2}{\sqrt{\sum x_1^2 \times \sum x_2^2}} \\ &= \frac{-6.21588}{\sqrt{24.82084 \times 3.87176}} \\ &= -0.6340 \end{aligned}$$

$$\begin{aligned} \text{P.E.} &= 0.6745 \times \frac{1-r^2}{\sqrt{n}} \\ &= 0.6745 \times \frac{1-(-0.6340)^2}{\sqrt{10}} \\ &= 0.1275 \end{aligned}$$

Appendix 5.6

Calculation of Regression Equation of Market Capitalization Value (Y)

Paid up Capital (X)

Fiscal year	X	Y	XY	X ²	Y ²
2004/05	16771.85	61365.9	1029219670	281294952.4	3765773683
2005/06	20008.55	96813.7	1937101757	400342073.1	9372892508
2006/07	21798.8	186301.3	4061144778	475187681.4	34708174380
2007/08	29465	366247.5	10791482590	868186225	134137231300
2008/09	61140	512939.07	31361094740	3738099600	263106489500
	$\sum X =$ 149184.2	$\sum Y =$ 1223667.47	$\sum XY =$ 49180043540	$\sum X^2 =$ 5763110532	$\sum Y^2 =$ 445090561400

Let the regression equation of Y on X be

$$Y = a + bX \dots\dots\dots (i)$$

To find the values of a & b we have the following two normal equations:

$$\sum Y = na + b \sum X \dots\dots\dots (ii)$$

$$\sum XY = a \sum X + b \sum X^2 \dots\dots\dots (iii)$$

Substituting the value of n, $\sum X$, $\sum Y$, $\sum XY$, $\sum X^2$ and $\sum Y^2$ in (ii) and (iii) we get

$$1223667.47 = 5a + 149184.2b \dots\dots\dots (iv)$$

$$49180043540 = 149184.2a + 5763110532b \dots\dots\dots (v)$$

Solving equations (IV) & (v) we get,

$$a = -43490.38$$

$$b = 9.66$$