

APPENDICES

ANNEXURE – I

APPENDIX – i(a) Projected Total Deposits of KVB for the Year 2020

year X	Deposits Y	$X - \bar{X} = X$	XY	X ²	$Y_c = a + bx$
1993	549	0	0	0	-1987.94
1994	883	1	883	1	-1083.37
1995	1342	2	2684	4	-178.80
1996	1159	3	3477	9	725.77
1997	1576	4	6304	16	1630.33
1998	2138	5	10690	25	2534.90
1999	2538	6	15228	36	3439.47
2000	3091	7	21637	49	4344.04
2001	3615	8	28920	64	5248.61
2002	4180	9	37620	81	6153.17
2003	5122	10	51220	100	7057.74
2004	5911	11	65021	121	7962.31
2005	6672	12	80064	144	8866.88
2006	7577	13	98501	169	9771.44
2007	9340	14	130760	196	10676.01
2008	12550	15	188250	225	11580.58
2009	15101	16	241616	256	12485.15
2010	19272	17	327624	289	13389.71
N=18	$\sum Y = 102616.00$	$\sum X = 153$	$\sum XY = 1310499$	$\sum X^2 = 1785$	$\sum Y_c = 102616.00$
Average	5700.89	8.5	3851.19	5718339.28	5700.89

$$Y_c = a + bx$$

$$\Sigma Y = Na + b\Sigma x$$

$$\Sigma XY = a\Sigma X + b\Sigma x^2$$

102616.00	=	18a + 153b	---	1 eqn.
1310499.00	=	153a + 1785b	---	2 eqn.
<hr/>				
1744472.00	=	306a	+	2601b
2620998.00	=	306a	+	3570b
<hr/>				
876526.00	=	0	-	969b

$$b = 904.57$$

$$18a + 153b = 102616$$

b=904.57 substituted in
equ.1

$$18a + 153(904.57) = 102616$$

$$a = -1987.94$$

$$Y_c = a + bx$$

$$Y_c = -1987.94 + (904.57 \times 22)$$

$$= \text{Rs. } 17912.60 \text{ crore}$$

$$Y_c = -1987.94 + (904.57 \times 27)$$

$$= \text{Rs. } 22435.39 \text{ crore}$$

APPENDIX – i(b)

Projected Advances of KVB for the Year 2020

year X	Advances Y	$X - \bar{X} = X$	XY	X ²	$Y_c = a + bx$
1993	0	0	0	0	-1748.12
1994	313	1	313	1	-1084.87
1995	649	2	1298	4	-421.62
1996	824	3	2472	9	241.63
1997	956	4	3824	16	904.88
1998	1155	5	5775	25	1568.13
1999	1448	6	8688	36	2231.38
2000	1807	7	12649	49	2894.63
2001	2254	8	18032	64	3557.88
2002	2460	9	22140	81	4221.12
2003	3344	10	33440	100	4884.37
2004	4023	11	44253	121	5547.62
2005	4620	12	55440	144	6210.87
2006	5555	13	72215	169	6874.12
2007	7040	14	98560	196	7537.37
2008	9422	15	141330	225	8200.62
2009	10410	16	166560	256	8863.87
2010	13497	17	229449	289	9527.12
N=18	$\sum Y = 69777.00$	$\sum X = 153$	$\sum XY = 916438$	$\sum x^2 = 1785$	$\sum Y_c = 69777.00$
Average	3876.5	8.5	503913.22	99.17	3876.5

$$Y_c = a + bx$$

$$\Sigma Y = Na + b \Sigma x$$

$$\Sigma XY = a \Sigma X + b \Sigma x^2$$

69777.00	=	18a + 153b	---	1 eqn.
916438.00	=	153a + 1785b	---	2 eqn.
<hr/>				
1186209.00	=	306a	+	2601b
1832876.00	=	306a	+	3570b
<hr/>				
64667.00	=	0	-	969b

$$b = 667.35$$

b=667.35 substituted in
equ.1

$$18a = -32328.32$$

$$a = -1796.02$$

$$b = 667.35$$

$$Y_c = a + bx$$

$$Y_c = -1796.02 + (667.35 \times 22)$$

$$= \text{Rs. } 12885.68 \text{ crore}$$

$$Y_c = -1796.02 + (667.35 \times 27)$$

$$= \text{Rs. } 16222.57 \text{ crore}$$

APPENDIX – i(c)

Projected Investments of KVB for the Year 2020

year X	Investments Y	$X-X^- = X$	XY	X ²	$Y_c = a + bx$
1993	179.29	0	0	0	-524.06
1994	399.4	1	399.4	1	-240.21
1995	430.69	2	861.38	4	43.64
1996	407.83	3	1223.49	9	327.48
1997	575.17	4	2300.68	16	611.33
1998	767.62	5	3838.1	25	895.17
1999	1019.04	6	6114.24	36	1179.02
2000	1184.31	7	8290.17	49	1462.86
2001	1234.39	8	9875.12	64	1746.71
2002	1538.91	9	13850.19	81	2030.56
2003	1850.17	10	18501.7	100	2314.40
2004	2173.01	11	23903.11	121	2598.25
2005	2219.03	12	26628.36	144	2882.09
2006	2298.13	13	29875.69	169	3165.94
2007	2873.94	14	40235.16	196	3449.78
2008	3526.33	15	52894.95	225	3733.63
2009	4715.98	16	75455.68	256	4017.48
2010	6602.16	17	112236.72	289	4301.32
N=18	$\sum Y = 33995.4$	$\sum X = 153$	$\sum XY = 426484.14$	$\sum X^2 = 1785$	$\sum Y_c = 33995.40$
Average	1888.63	8.5	948.57	99.17	1888.63

$$Y_c = a + bx$$

$$\sum Y = Na + b\sum x$$

$$\sum XY = a\sum X + b\sum x^2$$

33995.40	=	18a + 153b	---	1 eqn.
426484.14	=	153a + 1785b	---	2 eqn.
<hr/>				
577921.80	=	306a	+	2601b
852968.28	=	306a	+	3570b
<hr/>				
-275046.48	=	0		-969b

$$b = 283.84$$

b=283.84 substituted in
equ. 1

$$18a = -9432.99$$

$$a = -524.05$$

$$Y_c = a + bx$$

$$Y_c = -524.05 + (283.84 \times 22)$$
$$= \text{Rs. } 5720.43 \text{ crore}$$

$$Y_c = -524.05 + (283.84 \times 27)$$
$$= \text{Rs. } 7139.63 \text{ crore}$$

APPENDIX – i(f)

Projected Branches of KVB for the Year 2020

year X	Branches Y	$X - \bar{X} = X$	XY	X ²	$Y_c = a + bx$
1993	159	0	0	0	148.54
1994	168	1	168	1	157.29
1995	174	2	348	4	166.03
1996	181	3	543	9	174.78
1997	191	4	764	16	183.53
1998	198	5	990	25	192.27
1999	202	6	1212	36	201.02
2000	205	7	1435	49	209.77
2001	206	8	1648	64	218.52
2002	211	9	1899	81	227.26
2003	214	10	2140	100	236.01
2004	223	11	2453	121	244.76
2005	231	12	2772	144	253.50
2006	238	13	3094	169	262.25
2007	273	14	3822	196	271.00
2008	291	15	4365	225	279.75
2009	312	16	4992	256	288.49
2010	335	17	5695	289	297.24
N=18	∑Y =4012	∑X=153	∑XY=38340	∑x²=1785	∑Yc=4012
Average	222.89	8.5	115.69	99.17	222.89

$$Y_c = a + bx$$

$$\Sigma Y = Na + b \Sigma x$$

$$\Sigma XY = a \Sigma X + b \Sigma x^2$$

4012.00	=	18a + 153b	---	1 eqn.
38340.00	=	153a + 1785b	---	2 eqn.
<hr/>				
68204.00	=	306a	+	2601b
76680.00	=	306a	+	3570b
<hr/>				
-8476.00	=	0		-969b

$$b = 8.75$$

b=8.75 substituted in
equ.1

$$18a = 2673.68$$

$$a = 148.54$$

$$Y_c = a + bx$$

$$Y_c = 148.545 + (8.754 \times 22)$$

$$= 341.13$$

$$Y_c = 148.545 + (8.754 \times 27)$$

$$= 384.89$$

APPENDIX – i(d)

Projected Profit of KVB for the Year 2020

year X	Profit Y	$X - \bar{X} = X$	XY	X ²	$Y_c = a + bx$
1993	5	0	0	0	-25.27
1994	11	1	11	1	-9.84
1995	23	2	46	4	5.59
1996	32	3	96	9	21.02
1997	36	4	144	16	36.45
1998	44	5	220	25	51.88
1999	37	6	222	36	67.31
2000	71	7	497	49	82.74
2001	72	8	576	64	98.17
2002	109	9	981	81	113.60
2003	125	10	1250	100	129.03
2004	161	11	1771	121	144.46
2005	105	12	1260	144	159.90
2006	135	13	1755	169	175.33
2007	160	14	2240	196	190.76
2008	208	15	3120	225	206.19
2009	236	16	3776	256	221.62
2010	336	17	5712	289	237.05
N=18	∑Y =1906	∑X=153	∑XY=23677	∑x²=1785	∑Y_c=1906
Average	105.89	8.5	57.19	99.17	105.89

$$Y_c = a + bx$$

$$\sum Y = Na + b\sum x$$

$$\sum XY = a\sum X + b\sum x^2$$

1906.00	= 18a + 153b		---1 eqn.
23677.00	= 153a + 1785b		---2 eqn.
32402.00	=	306a + 2601b	
47354.00	=	306a + 3570b	
-14952.00	=	0 - 969b	
b =		13.43	

b = 13.43 substituted in
equ. 1

$$18a = -454.84$$

$$a = -25.27$$

$$Y_c = a + bx$$

$$Y_c = -25.27 + (13.43 \times 22)$$

$$= \text{Rs. } 270.19 \text{ crore}$$

$$Y_c = -25.27 + (13.43 \times 27)$$

$$= \text{Rs. } 337.34 \text{ crore}$$

APPENDIX – i(e)

Projected Income of KVB for the Year 2020

year X	Income Y	$X - \bar{X} = X$	XY	X ²	$Y_c = a + bx$
1993	7331	0	0	0	-12792.22
1994	9186	1	9186	1	-3487.95
1995	15747	2	31494	4	5816.33
1996	20928	3	62784	9	15120.60
1997	25327	4	101308	16	24424.88
1998	33243	5	166215	25	33729.15
1999	37835	6	227010	36	43033.42
2000	47582	7	333074	49	52337.70
2001	51505	8	412040	64	61641.97
2002	58700	9	528300	81	70946.25
2003	64800	10	648000	100	80250.52
2004	72200	11	794200	121	89554.80
2005	70400	12	844800	144	98859.07
2006	79300	13	1030900	169	108163.35
2007	98655	14	1381170	196	117467.62
2008	128933	15	1933995	225	126771.90
2009	171130	16	2738080	256	136076.17
2010	200492	17	3408364	289	145380.44
N=18	$\sum Y = 1193294$	$\sum X = 153$	$\sum XY = 14650920$	$\sum X^2 = 1785$	$\sum Y_c = 1193294$
Average	66294.11	8.5	33151.31	99.17	66692.11

$$Y_c = a + bx$$

$$\Sigma Y = Na + b\Sigma x$$

$$\Sigma XY = a\Sigma X + b\Sigma x^2$$

1193294.00	=	18a + 153b	---	1 eqn.
14650920.00	=	153a + 1785b	---	2 eqn.
<hr/>				
20285998.00	=	306a	+	2601b
29301840.00	=	306a	+	3570b
<hr/>				
-9015842.00	=	0		-969b

$$b = 9304.28$$

b=9304.28 substituted
in equ.1

$$18a = -230260$$

$$a = -12792.2$$

$$Y_c = a + bx$$

$$Y_c = -12792.2 + (9304.28 \times 22)$$

$$= \text{Rs. } 191901.96 \text{ crore}$$

$$Y_c = -12792.2 + (9304.28 \times 27)$$

$$= \text{Rs. } 238423.36 \text{ crore}$$

ANNEXURE – II

Year	Deposits (X)	$x=X-X$	x^2	Advances (Y)	$y=Y-Y$	y^2	xy
1993	549	-3631	13184161	234	-1304.91	1702790.108	4738128.21
1994	883	-3297	10870209	313	-1225.91	1502855.328	4041825.27
1995	1342	-2838	8054244	649	-889.91	791939.8081	2525564.58
1996	1159	-3021	9126441	824	-714.91	511096.3081	2159743.11
1997	1576	-2604	6780816	956	-582.91	339784.0681	1517897.64
1998	2138	-2042	4169764	1155	-383.91	147386.8881	783944.22
1999	2538	-1642	2696164	1448	-90.91	8264.6281	149274.22
2000	3091	-1089	1185921	1807	268.09	71872.2481	-291950.01
2001	3615	-565	319225	2254	715.09	511353.7081	-404025.85
2002	4180	0	0	2460	921.09	848406.7881	0
2003	5122	942	887364	3344	1805.09	3258349.908	1700394.78
2004	5911	1731	2996361	4023	2484.09	6170703.128	4299959.79
2005	6672	2492	6210064	4620	3081.09	9493115.588	7678076.28
2006	7577	3397	11539609	5555	4016.09	16128978.89	13642657.73
2007	9340	5160	26625600	7040	5501.09	30261991.19	28385624.4
2008	12550	8370	70056900	9422	7883.09	62143107.95	65981463.3
2009	15101	10921	119268241	10410	8871.09	78696237.79	96881173.89
2010	19272	15092	227768464	13497	11958.09	142995916.4	180471494.3
N=18	$\Sigma X=102616$	$\Sigma x=27376$	$\Sigma x^2=521739548$	$\Sigma Y=70011$	$\Sigma y=42310.62$	$\Sigma y^2=355584150.8$	$\Sigma xy=414261245.8$

Calculation of Karl Pearson's Correlation Coefficient

Correlation between Deposits and Advances of KVB during 1993-2010

$$r = \frac{N \sum dxdy - (\sum dx)(\sum dy)}{\sqrt{N \sum x^2 - (\sum x)^2} \times \sqrt{N \sum y^2 - (\sum y)^2}}$$

$$r = \frac{(18 \times 414261246) - (27376 \times 42310.62)}{[\sqrt{(18 \times 521739548) - (27376)^2}] \cdot [\sqrt{(18 \times 355584150.8) - (42310.6)^2}]}$$

$$r = \frac{6298407438}{6312039115}$$

$$r = +0.99$$

ANNEXURE – III

CO-EFFICIENT VARIATION OF DEPOSITS

Year	X= IBI	d=X-A	d ²	Y=PrSBs	d=Y-A	d ²	Z=KVB	d=Z-A	d ²
1993 – 94	16.66	-1.06	1.12	30.73	6.48	41.99	60.84	43.89	1926.33
1994 – 95	15.46	-2.26	5.11	31.51	7.26	52.71	51.98	35.03	1227.10
1995 – 96	13.44	-4.28	18.32	36.91	12.66	160.28	-13.64	-30.59	935.75
1996 – 97	16.91	-0.81	0.66	36.49	12.24	149.82	35.98	19.03	362.14
1997 – 98	19.72	2.00	4.00	35.60	11.35	128.82	35.66	18.71	350.06
1998 – 99	19.09	1.37	1.88	19.02	-5.23	27.35	18.71	1.76	3.10
1999 – 00	17.41	-0.31	0.10	36.90	12.65	160.02	21.79	4.84	23.43
2000 – 01	17.72	0.00	0.00	24.25	0.00	0.00	16.95	0.00	0.00
2001 – 02	14.07	-3.65	13.32	24.95	0.70	0.49	15.63	-1.32	1.74
2002 – 03	12.72	-5.00	25.00	22.12	-2.13	4.54	22.54	5.59	31.25
2003 – 04	16.22	-1.50	2.25	29.79	5.54	30.69	15.40	-1.55	2.40
2004 – 05	16.63	-1.09	1.19	17.16	-7.09	50.27	12.87	-4.08	16.65
2005 – 06	17.80	0.08	0.01	36.18	11.93	142.32	13.56	-3.39	11.49
2006 – 07	24.59	6.87	47.20	28.83	4.58	20.98	23.27	6.32	39.94
2007 – 08	23.10	5.38	28.94	22.30	-1.95	3.80	34.37	17.42	303.46
2008 – 09	22.10	4.38	19.18	7.66	-16.59	275.23	20.33	3.38	11.42
2009 – 10	11.37	-6.35	40.32	13.21	-11.04	121.88	27.62	10.67	113.85
Total	295.01	-6.23	208.59	453.61	41.36	1371.19	413.86	125.71	5360.11
Average	17.35	-0.37	12.27	26.68	2.43	80.66	24.34	7.39	315.30

$$C.V = \frac{\sigma}{\bar{x}} * 100$$

$$\begin{aligned}
\sigma &= \sqrt{\frac{\sum d^2}{N} - \left[\frac{\sum d}{N} \right]^2} \\
&= \sqrt{\frac{208.59}{18} - \left[\frac{(-6.23)}{18} \right]^2} \\
&= \sqrt{11.5883 - 0.11979} \\
&= \sqrt{11.46851} = 3.48
\end{aligned}$$

$$C.V = \frac{3.48}{17.35} \times 100$$

$$C.V = 20.49 \%$$