

Principal

	Series historicas					
	Usiminas	Vale	Itau	Dolar Spot	Petrobras	Telemar
5/13/2003	10.75	80	198	2.8938	53.5	46.05
5/12/2003	11	79.9	195.5	2.8942	52.5	46.02
5/9/2003	10.99	78.5	197.5	2.8918	51.3	46.2
5/8/2003	10.95	79.8	195.55	2.888	52	46.2
5/7/2003	10.8	81.37	193	2.8846	51.3	46.39
5/6/2003	10.63	82.3	192	2.8798	51.34	46.1
5/5/2003	11	78	191.11	2.8772	50.64	46.25
5/2/2003	10.74	77.5	192.87	2.8768	49.89	46.3
4/30/2003	11.08	78.4	198.87	2.8788	49.6	46.3
4/29/2003	10.99	78.1	198.81	2.8774	48.52	46.35
4/28/2003	10.58	78.5	191.87	2.8758	47.5	46.3
4/25/2003	10.72	78.5	195.62	2.8744	48	46.25
4/24/2003	10.99	80.79	195.89	2.8708	48.49	46.2
4/23/2003	11.2	82.3	189.87	2.8662	48	46.15
4/22/2003	10.99	82.35	187.2	2.8628	47	46.25
4/17/2003	10.54	82.61	189.47	2.8598	47	46.15
4/16/2003	10.19	82.73	188.87	2.8562	46.9	46.05
4/15/2003	10.33	83.86	181.88	2.8546	46.46	46.1
4/14/2003	10.15	84.37	181.38	2.8528	46.5	46.15
4/11/2003	9.25	86.51	184.88	2.8518	46.3	46.05
4/10/2003	9.11	84.75	188.17	2.8538	46.4	45.89
4/9/2003	9.6	84.35	191.73	2.856	46.17	45.4
4/8/2003	9.61	82.29	196.37	2.8594	47.96	45.3
4/7/2003	9.86	81.9	192.27	2.8648	50	45.3
4/4/2003	9.45	83.92	179.98	2.8704	49	45.2
4/3/2003	9.4	85.63	182.38	2.873	48.51	45.19
4/2/2003	9.21	86.31	181.88	2.8746	48	45.49
4/1/2003	9.25	85.92	184.88	2.8752	46.6	44.8
3/31/2003	8.69	86.32	176.76	2.8746	46	44.72
3/28/2003	8.3	87.49	184.74	2.8734	46.5	44.7
3/27/2003	7.9	87.29	181.74	2.8726	45.3	44.6
3/26/2003	7.82	85.84	181.25	2.872	46.37	44.58
3/25/2003	7.8	86.8	180.9	2.8714	45.32	44.52
3/24/2003	7.74	87	183.84	2.871	45.7	44.55
3/21/2003	7.75	88.76	176.68	2.8716	47.24	44.55
3/20/2003	7.51	87.3	173.52	2.871	46.2	44.5
3/19/2003	7.6	88.21	173.52	2.8726	45.55	44.6
3/18/2003	7.78	89.5	169.58	2.8744	44.34	44.5
3/17/2003	7.63	88.28	166.62	2.8774	43.48	44.4
3/14/2003	7.68	90.23	169.37	2.881	44.42	44.5
3/13/2003	7.45	91.81	163.65	2.8848	44.43	44.4
3/12/2003	7.36	92.69	162.68	2.8846	43.28	44.4
3/11/2003	7.5	92.39	163.67	2.884	42.17	44.4
3/10/2003	7.71	94.26	161.69	2.884	42.03	44.14
3/7/2003	7.73	95.15	161.69	2.8824	41.01	44.24

3/6/2003	7.6	96.71	156.76	2.8834	40.43	44.01
3/5/2003	7.5	96.12	154.47	2.886	40.58	44.1
2/28/2003	7.67	93.92	150.74	2.8896	40.58	44.45
2/27/2003	7.7	98.08	147.79	2.889	40.58	44.81
2/26/2003	7.6	97.2	146.81	2.888	41.06	44.63
2/25/2003	7.62	97.39	146.81	2.8846	41.54	44.8
2/24/2003	7.48	96.12	151.72	2.8826	43.81	44.7
2/21/2003	7.5	93.18	150.65	2.8796	43.14	44.5
2/20/2003	7.32	93.67	149.27	2.8788	43.77	44.4
2/19/2003	7.49	93.57	153.7	2.8788	43.96	44.4
2/18/2003	7.38	95.14	151.54	2.8802	43.48	44.5
2/17/2003	7.3	93.67	154.59	2.8802	44.69	44.7
2/14/2003	7.21	94.16	153.21	2.8812	44.45	44.7
2/13/2003	7.6	96.41	152.72	2.8828	45.21	44.89
2/12/2003	7.61	98.08	154.98	2.8828	45.12	44.9
2/11/2003	7.3	95.92	154.69	2.8828	45.55	44.6
2/10/2003	7.2	96.12	152.23	2.8828	43.48	44.55
2/7/2003	7.31	97.25	153.21	2.8822	44.11	44.45
2/6/2003	7.11	96.12	154.2	2.879	45.21	44.4
2/5/2003	7.14	93.67	156.66	2.876	45.31	44.35
2/4/2003	7.19	91.51	155.67	2.8746	45.99	44.1
2/3/2003	7.5	89.79	152.73	2.8814	46.37	44.2
1/31/2003	7.35	88.17	151.75	2.8884	45.6	44.38
1/30/2003	7.48	86.41	155.57	2.898	45.92	44.39
1/29/2003	7.2	86.51	149.67	2.9104	43.23	44.49
1/28/2003	7.1	86.8	149.17	2.9178	43.86	44.99
1/27/2003	7.31	88.27	150.15	2.9172	43.19	44
1/24/2003	7.62	86.91	150.16	2.9182	45.79	43.6
1/23/2003	7.37	89.39	154.1	2.9166	45.99	43.7
1/22/2003	7	90.72	158.38	2.9122	47.69	43.8
1/21/2003	6.85	87.6	161.49	2.9112	48.31	43.7
1/20/2003	7	87.49	167.39	2.908	48.9	43.7
1/17/2003	7.1	86.7	169.35	2.9064	50.33	43.6
1/16/2003	7.22	86.7	166.9	2.9084	50.72	43.6
1/15/2003	7	87.39	166.8	2.9114	50.52	43.5
1/14/2003	7.26	86.51	167.98	2.9124	50.72	43.4
1/13/2003	7.17	88.27	168.37	2.9182	50.91	43.5
1/10/2003	7.2	90.71	168.72	2.9218	49.02	43.64
1/9/2003	7.2	90.89	166.4	2.923	46.66	43.5
1/8/2003	7.26	90.14	169.56	2.9242	46.57	43.81
1/7/2003	7.14	91.75	173.3	2.9272	46.86	43.53
1/6/2003	6.94	93.96	168.37	2.9244	45.7	43.55
1/3/2003	6.9	95.14	165.96	2.9224	45.76	43.6
1/2/2003	6.57	93.96	167.39	2.9212	44.98	43.55
12/30/2002	6.61	95.82	160.68	2.9204	45.12	43.55
12/27/2002	6.5	97.1	160.02	2.9234	46.18	43.4
12/26/2002	6.5	94.75	161.87	2.9314	47.05	43.55
12/23/2002	6.3	92.21	163.68	2.9366	47.05	43.6
12/20/2002	6.17	97.09	162.35	2.9408	46.19	43.57
12/19/2002	6.1	94.16	153.29	2.9454	43.67	43.5
12/18/2002	6.1	96.12	151.77	2.9474	43.96	43.5

12/17/2002	5.99	95.63	149.97	2.9504	43.85	43.95
12/16/2002	6.15	96.12	149.49	2.9552	43.78	43.75
12/13/2002	6.13	98.08	150.45	2.96	43.67	43.85
12/12/2002	6.15	100.23	151.38	2.964	43.09	43.5
12/11/2002	5.94	99.06	145.69	2.965	42.22	43.49
12/10/2002	5.92	97.65	143.78	2.9664	42.51	43.5
12/9/2002	6.01	94.26	144.73	2.967	42.8	43.48
12/6/2002	5.9	94.65	143.78	2.968	42.9	43.45
12/5/2002	6.2	94.27	145.88	2.97	43.48	43.48
12/4/2002	6.15	93.67	146.64	2.972	43.48	43.4
12/3/2002	6.08	92.2	148.45	2.9726	42.8	43.49
12/2/2002	6.15	91.44	145.49	2.974	42.99	43.4
11/29/2002	6.01	87.29	141.78	2.975	41.65	43.4
11/28/2002	6.12	87.1	141.78	2.973	41.64	43.39
11/27/2002	6.2	86.61	142.26	2.972	42.04	43.4
11/26/2002	6.15	87.1	142.16	2.973	42.99	43.25
11/25/2002	5.9	87.78	140.66	2.975	43.72	43.13
11/22/2002	5.66	89.74	143.21	2.9776	43.68	43.1
11/21/2002	5.55	86.51	142.26	2.9896	43.48	43.39
11/20/2002	5.49	88.31	140.83	3.0016	42.51	43
11/19/2002	5.42	90.23	142.35	3.0102	42.51	43.01
11/18/2002	5.4	88.76	142.63	3.0172	41.98	42.9
11/14/2002	5.2	86.31	142.31	3.0256	41.06	43
11/13/2002	5.11	85.45	145.11	3.0256	40.72	43.1
11/12/2002	5.29	84.4	143.21	3.0238	41.43	43.31
11/11/2002	5.3	86.59	142.26	3.0192	41.43	43.5
11/8/2002	5.42	87.07	141.78	3.0144	41.33	43.5
11/7/2002	5.3	85.64	137.12	3.0084	39.92	43.6
11/6/2002	5.27	82.37	141.78	3.006	39.45	43.6
11/5/2002	5.35	87.07	143.78	3.0068	40.82	43.7
11/4/2002	5.5	87.92	151.78	3.014	42.47	43.7
11/1/2002	5.35	88.02	152.25	3.02	41.9	43.8
10/31/2002	5.45	88.49	149.78	3.026	41.24	43.69
10/30/2002	5.27	90.4	140.75	3.0304	40.53	43.38
10/29/2002	5.15	90.37	138.84	3.0318	39.61	43.21
10/28/2002	5.39	88.5	142.46	3.03	40.98	43.19
10/25/2002	5	87.07	135.7	3.0288	40.44	43
10/24/2002	5.09	86.58	131.71	3.0338	39.87	42.91
10/23/2002	4.75	83.74	121.63	3.0428	37.7	43
10/22/2002	4.45	81.07	116.97	3.054	36.41	43.02
10/21/2002	4.3	82.55	117.92	3.0646	36.8	43.1
10/18/2002	4.28	79.92	119.82	3.0676	36.1	43.2
10/17/2002	4.2	80.4	113.17	3.0646	33.83	43
10/16/2002	4.2	78.75	111.17	3.0566	33.48	42.99
10/15/2002	4.25	78.03	114.21	3.047	34.26	43.85
10/14/2002	4.4	79.45	115.91	3.0386	33.88	43.95
10/11/2002	4.43	80.88	116.04	3.0356	36.77	43.8
10/10/2002	4.36	81.37	114.12	3.0324	36.66	43.8
10/9/2002	4.42	79.45	117.45	3.0264	36.57	43.8
10/8/2002	4.65	78.03	122.68	3.0184	36.97	43.95
10/7/2002	4.88	79.07	126	3.0088	38.69	43.7

10/4/2002	4.67	80.88	124.58	3.0016	38.7	43.95
10/3/2002	4.6	77.56	121.25	2.9948	37.51	43.75
10/2/2002	4.89	76.12	120.75	2.9914	37.89	44.05
10/1/2002	4.5	77.55	114.12	2.9912	35.45	44.3
9/30/2002	4.58	79.45	109.12	2.9922	33.97	44.5
9/27/2002	4.85	80.4	111.93	2.9898	37.73	44.45
9/26/2002	5.05	78.98	116.87	2.9868	37.98	44.2
9/25/2002	5	79.81	119.25	2.9804	39.45	44.2
9/24/2002	4.99	76.98	117.82	2.9726	39.45	44.1
9/23/2002	5.22	74.33	123.52	2.9646	40.49	43.85
9/20/2002	5.3	74.22	123.43	2.9602	40.49	43.9
9/19/2002	5.45	72.89	121.12	2.9546	42	43.85
9/18/2002	5.43	70.98	124.1	2.9554	42.37	43.9
9/17/2002	5.4	70.89	130.19	2.9574	43.78	44
9/16/2002	5.55	70.37	133.5	2.9594	45.3	44
9/13/2002	5.44	69.47	134.45	2.9614	44.71	43.9
9/12/2002	5.4	70.32	134.91	2.9644	44.37	44.3
9/11/2002	5.36	70.18	131.88	2.9634	44.35	44.35
9/10/2002	5.41	69.99	129.22	2.9614	43.32	44.4
9/9/2002	5.37	69.32	128.27	2.9574	43.22	44.4
9/6/2002	5.59	68.03	132.07	2.9508	42.94	44.35
9/5/2002	5.7	66.61	133.02	2.9418	42	44.15
9/4/2002	5.8	66.46	136.73	2.9314	41.89	44.2
9/3/2002	5.75	65.08	138.73	2.922	41.37	44.05
9/2/2002	5.8	66.61	139.68	2.9142	41.52	44.15
8/30/2002	5.7	66.32	135.3	2.909	41.51	44.24
8/29/2002	5.5	68.17	132.93	2.9066	41.05	44.16
8/28/2002	5.46	69.08	137.21	2.906	41.52	44.25
8/27/2002	5.57	67.94	133.88	2.9064	40.59	44.2
8/26/2002	5.01	68.26	123.44	2.9062	39.16	44.2
8/23/2002	5.07	68.13	123.44	2.906	39.06	44.3
8/22/2002	4.95	68.42	116.79	2.9072	37.85	44.14
8/21/2002	5	67.56	115.95	2.9082	37.76	44
8/20/2002	5.15	67.84	118.69	2.9082	38.22	44.1
8/19/2002	5.25	70.39	116.7	2.9092	38.42	44
8/16/2002	5.3	67.56	117.68	2.9078	38.22	44.09
8/15/2002	5.6	66.61	121.45	2.908	38.88	43.95
8/14/2002	5.82	66.66	122.39	2.9084	38.88	43.8
8/13/2002	5.69	68.42	121.73	2.909	40.49	43.85
8/12/2002	5.9	68.51	132.74	2.9084	42.46	43.81
8/9/2002	5.96	65.75	139.05	2.9082	41.33	44
8/8/2002	5.82	67.08	144.98	2.9036	41.05	43.71
8/7/2002	5.59	66.61	129.92	2.8984	39.54	43.7
8/6/2002	5.35	66.62	126.17	2.8928	38.69	43.65
8/5/2002	5.37	67.08	125.21	2.889	40.83	43.7
8/2/2002	5.2	69.46	118.61	2.8866	39.92	43.68
8/1/2002	5.25	72.79	116.54	2.8858	39.01	43.7
7/31/2002	5.2	67.46	111.12	2.8862	37.74	43.7
7/30/2002	5.6	62.8	116.64	2.8868	36.62	43.75
7/29/2002	5.6	62.8	120.88	2.8858	37.78	43.8
7/26/2002	5.98	65.47	127.92	2.886	38.36	44

7/25/2002	6	65.66	137.34	2.8866	38.7	43.8
7/24/2002	5.63	63.75	140.16	2.8876	36.8	43.94
7/23/2002	6.03	65.17	146.65	2.8878	39.64	43.69
7/22/2002	6.33	66.61	156.9	2.889	40.24	43.8
7/19/2002	6.4	65.23	158.03	2.8898	42.18	43.9
7/18/2002	6.15	66.61	154.74	2.8916	43.41	43.9
7/17/2002	6.04	66.51	155.21	2.892	42.83	43.9
7/16/2002	6.19	65.18	150.51	2.89	42.18	43.7
7/15/2002	6.3	64.46	153.33	2.8882	42.94	43.8
7/12/2002	6.3	65.66	145.8	2.8926	43.51	43.8
7/11/2002	6.28	66.8	144.85	2.8962	42.14	44.35
7/10/2002	6.5	69.08	145.8	2.9002	43.51	43.9
7/8/2002	6.52	68.51	142.52	2.9074	43.97	43.6
7/5/2002	6.55	68.96	146.74	2.9136	43.88	43.2
7/4/2002	6.55	69.46	147.69	2.9156	44.44	43.6
7/3/2002	6.77	68.7	151.45	2.9196	44.71	43.5
7/2/2002	6.54	68.51	148.63	2.9216	45.3	43.4
7/1/2002	6.8	69.46	150.51	2.9196	46.71	43.65
6/28/2002	6.7	68.99	148.53	2.9184	46.67	43.25
6/27/2002	6.5	64.51	147.12	2.9144	45.77	43
6/26/2002	6.2	63.09	145.71	2.909	44.07	43.1
6/25/2002	6.4	62.71	143.83	2.9056	41.94	42.89
6/24/2002	6.31	66.13	138.2	2.909	41.05	42.51
6/21/2002	7	65.94	142.05	2.9134	43.41	42.45
6/20/2002	7.35	67.47	145.71	2.9196	46.1	42.65
6/19/2002	7.5	66.7	152	2.925	46.49	42.66
6/18/2002	7.52	66.99	148.53	2.9288	47.01	42.7
6/17/2002	7.35	68.51	148.35	2.9314	47.18	42.6
6/14/2002	7.49	67.84	152.29	2.9326	49.37	42.5
6/13/2002	7.62	69.46	155.28	2.9326	50.02	42.6
6/12/2002	7.5	71.37	157.46	2.9316	50.03	42.31
6/11/2002	7.51	70.89	158.87	2.9386	50.82	42.75
6/10/2002	7.54	71.75	153.23	2.9446	50.22	42.65
6/7/2002	7.31	71.27	152.2	2.949	50.96	43.44
6/6/2002	7.56	72.35	161.69	2.9554	51.91	42.35
6/5/2002	7.45	72.21	163.57	2.963	52.47	42.35
6/4/2002	7.4	70.87	164.51	2.9672	51.24	42.39
6/3/2002	7.65	70.94	163.21	2.9708	51.9	41.8
5/31/2002	8.01	69.94	166.77	2.9764	52.19	41.7
5/29/2002	7.59	68.42	163.48	2.9824	52.38	41.8
5/28/2002	7.4	67.08	165.36	2.9878	53.08	41.5
5/27/2002	7.4	68.03	166.3	2.9902	52	41.45
5/24/2002	7.4	66.61	166.3	2.9932	52.85	41.48
5/23/2002	7.24	66.6	163.3	2.9966	52	41.19
5/22/2002	7.67	66.42	167.24	2.9982	52.28	41
5/21/2002	7.6	65.46	167.24	2.9998	52.09	40.9
5/20/2002	7.67	64.7	168.18	3.0016	50.96	40.9
5/17/2002	7.67	65	168.18	3.004	50.49	40.9
5/16/2002	7.45	66.04	165.83	3.0056	49.83	40.7
5/15/2002	7.16	65.75	159.72	3.0056	49.07	40.7
5/14/2002	7.09	66.51	159.73	3.0058	48.8	40.4

5/13/2002	7.28	65.02	164.42	3.006	49.09	40.25
5/10/2002	7.07	64.52	165.36	3.0044	50.68	40.21
5/9/2002	7.44	63.75	172.41	3.0028	50.96	40.1
5/8/2002	7.35	62.61	170.06	3.004	50.02	40
5/7/2002	7.75	63.28	169.12	3.0052	51.24	40.12
5/6/2002	7.75	62.33	169.56	3.0058	50.58	40.2
5/3/2002	7.9	59.66	172.41	3.0064	50.96	40
5/2/2002	8	61.07	176.06	3.0074	51.71	39.9
				3.0068		39.8
				3.006		40.3
				3.0058		40.3
				3.0078		40.4
				3.0098		40.3
				3.0116		40.5
				3.014		40.4
				3.0162		40.27
				3.0172		40
				3.0176		40.18
				3.018		40.14
				3.0164		40.2
				3.0148		40
				3.0148		39.81
				3.0154		40.11
				3.016		40.25
				3.02		40.4
				0		40.6
				0		40.8
				0		40.49
				0		40.35
						40.09
						40.49
						40.09

Principal

Beta

	Retornos historicos					
	Usiminas	Vale	Itau	Dolar Spot	Petrobras	Telemar
5/13/2003	-2.30%	0.13%	1.27%	-0.01%	1.89%	0.07%
5/12/2003	0.09%	1.77%	-1.02%	0.08%	2.31%	-0.39%
5/9/2003	0.36%	-1.64%	0.99%	0.13%	-1.36%	0.00%
5/8/2003	1.38%	-1.95%	1.31%	0.12%	1.36%	-0.41%
5/7/2003	1.59%	-1.14%	0.52%	0.17%	-0.08%	0.63%
5/6/2003	-3.42%	5.37%	0.46%	0.09%	1.37%	-0.32%
5/5/2003	2.39%	0.64%	-0.92%	0.01%	1.49%	-0.11%
5/2/2003	-3.12%	-1.15%	-3.06%	-0.07%	0.58%	0.00%
4/30/2003	0.82%	0.38%	0.03%	0.05%	2.20%	-0.11%
4/29/2003	3.80%	-0.51%	3.55%	0.06%	2.12%	0.11%
4/28/2003	-1.31%	0.00%	-1.94%	0.05%	-1.05%	0.11%
4/25/2003	-2.49%	-2.88%	-0.14%	0.13%	-1.02%	0.11%
4/24/2003	-1.89%	-1.85%	3.12%	0.16%	1.02%	0.11%
4/23/2003	1.89%	-0.06%	1.42%	0.12%	2.11%	-0.22%
4/22/2003	4.18%	-0.32%	-1.21%	0.10%	0.00%	0.22%
4/17/2003	3.38%	-0.15%	0.32%	0.13%	0.21%	0.22%
4/16/2003	-1.36%	-1.36%	3.77%	0.06%	0.94%	-0.11%
4/15/2003	1.76%	-0.61%	0.28%	0.06%	-0.09%	-0.11%
4/14/2003	9.29%	-2.50%	-1.91%	0.04%	0.43%	0.22%
4/11/2003	1.53%	2.06%	-1.76%	-0.07%	-0.22%	0.35%
4/10/2003	-5.24%	0.47%	-1.87%	-0.08%	0.50%	1.07%
4/9/2003	-0.10%	2.47%	-2.39%	-0.12%	-3.80%	0.22%
4/8/2003	-2.57%	0.48%	2.11%	-0.19%	-4.17%	0.00%
4/7/2003	4.25%	-2.44%	6.61%	-0.20%	2.02%	0.22%
4/4/2003	0.53%	-2.02%	-1.32%	-0.09%	1.01%	0.02%
4/3/2003	2.04%	-0.79%	0.27%	-0.06%	1.06%	-0.66%
4/2/2003	-0.43%	0.45%	-1.64%	-0.02%	2.96%	1.53%
4/1/2003	6.25%	-0.46%	4.49%	0.02%	1.30%	0.18%
3/31/2003	4.59%	-1.35%	-4.42%	0.04%	-1.08%	0.04%
3/28/2003	4.94%	0.23%	1.64%	0.03%	2.61%	0.22%
3/27/2003	1.02%	1.68%	0.27%	0.02%	-2.33%	0.04%
3/26/2003	0.26%	-1.11%	0.19%	0.02%	2.29%	0.13%
3/25/2003	0.77%	-0.23%	-1.61%	0.01%	-0.83%	-0.07%
3/24/2003	-0.13%	-2.00%	3.97%	-0.02%	-3.31%	0.00%
3/21/2003	3.15%	1.66%	1.80%	0.02%	2.23%	0.11%
3/20/2003	-1.19%	-1.04%	0.00%	-0.06%	1.42%	-0.22%
3/19/2003	-2.34%	-1.45%	2.30%	-0.06%	2.69%	0.22%
3/18/2003	1.95%	1.37%	1.76%	-0.10%	1.96%	0.22%
3/17/2003	-0.65%	-2.18%	-1.64%	-0.13%	-2.14%	-0.22%
3/14/2003	3.04%	-1.74%	3.44%	-0.13%	-0.02%	0.22%
3/13/2003	1.22%	-0.95%	0.59%	0.01%	2.62%	0.00%
3/12/2003	-1.88%	0.32%	-0.61%	0.02%	2.60%	0.00%
3/11/2003	-2.76%	-2.00%	1.22%	0.00%	0.33%	0.59%
3/10/2003	-0.26%	-0.94%	0.00%	0.06%	2.46%	-0.23%
3/7/2003	1.70%	-1.63%	3.10%	-0.03%	1.42%	0.52%

Usiminas

Vale

Cesp

Pronto

Elet6d

Embraer

3/6/2003	1.32%	0.61%	1.47%	-0.09%	-0.37%	-0.20%
3/5/2003	-2.24%	2.32%	2.44%	-0.12%	0.00%	-0.79%
2/28/2003	-0.39%	-4.33%	1.98%	0.02%	0.00%	-0.81%
2/27/2003	1.31%	0.90%	0.67%	0.03%	-1.18%	0.40%
2/26/2003	-0.26%	-0.20%	0.00%	0.12%	-1.16%	-0.38%
2/25/2003	1.85%	1.31%	-3.29%	0.07%	-5.32%	0.22%
2/24/2003	-0.27%	3.11%	0.71%	0.10%	1.54%	0.45%
2/21/2003	2.43%	-0.52%	0.92%	0.03%	-1.45%	0.22%
2/20/2003	-2.30%	0.11%	-2.92%	0.00%	-0.43%	0.00%
2/19/2003	1.48%	-1.66%	1.42%	-0.05%	1.10%	-0.22%
2/18/2003	1.09%	1.56%	-1.99%	0.00%	-2.74%	-0.45%
2/17/2003	1.24%	-0.52%	0.90%	-0.03%	0.54%	0.00%
2/14/2003	-5.27%	-2.36%	0.32%	-0.06%	-1.70%	-0.42%
2/13/2003	-0.13%	-1.72%	-1.47%	0.00%	0.20%	-0.02%
2/12/2003	4.16%	2.23%	0.19%	0.00%	-0.95%	0.67%
2/11/2003	1.38%	-0.21%	1.60%	0.00%	4.65%	0.11%
2/10/2003	-1.52%	-1.17%	-0.64%	0.02%	-1.44%	0.22%
2/7/2003	2.77%	1.17%	-0.64%	0.11%	-2.46%	0.11%
2/6/2003	-0.42%	2.58%	-1.58%	0.10%	-0.22%	0.11%
2/5/2003	-0.70%	2.33%	0.63%	0.05%	-1.49%	0.57%
2/4/2003	-4.22%	1.90%	1.91%	-0.24%	-0.82%	-0.23%
2/3/2003	2.02%	1.82%	0.64%	-0.24%	1.67%	-0.41%
1/31/2003	-1.75%	2.02%	-2.49%	-0.33%	-0.70%	-0.02%
1/30/2003	3.82%	-0.12%	3.87%	-0.43%	6.04%	-0.23%
1/29/2003	1.40%	-0.33%	0.33%	-0.25%	-1.45%	-1.12%
1/28/2003	-2.91%	-1.68%	-0.65%	0.02%	1.54%	2.23%
1/27/2003	-4.15%	1.55%	-0.01%	-0.03%	-5.85%	0.91%
1/24/2003	3.34%	-2.81%	-2.59%	0.05%	-0.44%	-0.23%
1/23/2003	5.15%	-1.48%	-2.74%	0.15%	-3.63%	-0.23%
1/22/2003	2.17%	3.50%	-1.94%	0.03%	-1.29%	0.23%
1/21/2003	-2.17%	0.13%	-3.59%	0.11%	-1.21%	0.00%
1/20/2003	-1.42%	0.91%	-1.16%	0.06%	-2.88%	0.23%
1/17/2003	-1.68%	0.00%	1.46%	-0.07%	-0.77%	0.00%
1/16/2003	3.09%	-0.79%	0.06%	-0.10%	0.40%	0.23%
1/15/2003	-3.65%	1.01%	-0.70%	-0.03%	-0.40%	0.23%
1/14/2003	1.25%	-2.01%	-0.23%	-0.20%	-0.37%	-0.23%
1/13/2003	-0.42%	-2.73%	-0.21%	-0.12%	3.78%	-0.32%
1/10/2003	0.00%	-0.20%	1.38%	-0.04%	4.93%	0.32%
1/9/2003	-0.83%	0.83%	-1.88%	-0.04%	0.19%	-0.71%
1/8/2003	1.67%	-1.77%	-2.18%	-0.10%	-0.62%	0.64%
1/7/2003	2.84%	-2.38%	2.89%	0.10%	2.51%	-0.05%
1/6/2003	0.58%	-1.25%	1.44%	0.07%	-0.13%	-0.11%
1/3/2003	4.90%	1.25%	-0.86%	0.04%	1.72%	0.11%
1/2/2003	-0.61%	-1.96%	4.09%	0.03%	-0.31%	0.00%
12/30/2002	1.68%	-1.33%	0.41%	-0.10%	-2.32%	0.35%
12/27/2002	0.00%	2.45%	-1.15%	-0.27%	-1.87%	-0.35%
12/26/2002	3.13%	2.72%	-1.11%	-0.18%	0.00%	-0.11%
12/23/2002	2.09%	-5.16%	0.82%	-0.14%	1.84%	0.07%
12/20/2002	1.14%	3.06%	5.74%	-0.16%	5.61%	0.16%
12/19/2002	0.00%	-2.06%	1.00%	-0.07%	-0.66%	0.00%
12/18/2002	1.82%	0.51%	1.19%	-0.10%	0.25%	-1.03%

12/17/2002	-2.64%	-0.51%	0.32%	-0.16%	0.16%	0.46%
12/16/2002	0.33%	-2.02%	-0.64%	-0.16%	0.25%	-0.23%
12/13/2002	-0.33%	-2.17%	-0.62%	-0.14%	1.34%	0.80%
12/12/2002	3.47%	1.17%	3.83%	-0.03%	2.04%	0.02%
12/11/2002	0.34%	1.43%	1.32%	-0.05%	-0.68%	-0.02%
12/10/2002	-1.51%	3.53%	-0.66%	-0.02%	-0.68%	0.05%
12/9/2002	1.85%	-0.41%	0.66%	-0.03%	-0.23%	0.07%
12/6/2002	-4.96%	0.40%	-1.45%	-0.07%	-1.34%	-0.07%
12/5/2002	0.81%	0.64%	-0.52%	-0.07%	0.00%	0.18%
12/4/2002	1.14%	1.58%	-1.23%	-0.02%	1.58%	-0.21%
12/3/2002	-1.14%	0.83%	2.01%	-0.05%	-0.44%	0.21%
12/2/2002	2.30%	4.64%	2.58%	-0.03%	3.17%	0.00%
11/29/2002	-1.81%	0.22%	0.00%	0.07%	0.02%	0.02%
11/28/2002	-1.30%	0.56%	-0.34%	0.03%	-0.96%	-0.02%
11/27/2002	0.81%	-0.56%	0.07%	-0.03%	-2.23%	0.35%
11/26/2002	4.15%	-0.78%	1.06%	-0.07%	-1.68%	0.28%
11/25/2002	4.15%	-2.21%	-1.80%	-0.09%	0.09%	0.07%
11/22/2002	1.96%	3.67%	0.67%	-0.40%	0.46%	-0.67%
11/21/2002	1.09%	-2.06%	1.01%	-0.40%	2.26%	0.90%
11/20/2002	1.28%	-2.15%	-1.07%	-0.29%	0.00%	-0.02%
11/19/2002	0.37%	1.64%	-0.20%	-0.23%	1.25%	0.26%
11/18/2002	3.77%	2.80%	0.22%	-0.28%	2.22%	-0.23%
11/14/2002	1.75%	1.00%	-1.95%	0.00%	0.83%	-0.23%
11/13/2002	-3.46%	1.24%	1.32%	0.06%	-1.73%	-0.49%
11/12/2002	-0.19%	-2.56%	0.67%	0.15%	0.00%	-0.44%
11/11/2002	-2.24%	-0.55%	0.34%	0.16%	0.24%	0.00%
11/8/2002	2.24%	1.66%	3.34%	0.20%	3.47%	-0.23%
11/7/2002	0.57%	3.89%	-3.34%	0.08%	1.18%	0.00%
11/6/2002	-1.51%	-5.55%	-1.40%	-0.03%	-3.41%	-0.23%
11/5/2002	-2.77%	-0.97%	-5.41%	-0.24%	-3.96%	0.00%
11/4/2002	2.77%	-0.11%	-0.31%	-0.20%	1.35%	-0.23%
11/1/2002	-1.85%	-0.53%	1.64%	-0.20%	1.59%	0.25%
10/31/2002	3.36%	-2.14%	6.22%	-0.15%	1.74%	0.71%
10/30/2002	2.30%	0.03%	1.37%	-0.05%	2.30%	0.39%
10/29/2002	-4.55%	2.09%	-2.57%	0.06%	-3.40%	0.05%
10/28/2002	7.51%	1.63%	4.86%	0.04%	1.33%	0.44%
10/25/2002	-1.78%	0.56%	2.98%	-0.16%	1.42%	0.21%
10/24/2002	6.91%	3.34%	7.96%	-0.30%	5.60%	-0.21%
10/23/2002	6.52%	3.24%	3.91%	-0.37%	3.48%	-0.05%
10/22/2002	3.43%	-1.81%	-0.81%	-0.35%	-1.07%	-0.19%
10/21/2002	0.47%	3.24%	-1.60%	-0.10%	1.92%	-0.23%
10/18/2002	1.89%	-0.60%	5.71%	0.10%	6.49%	0.46%
10/17/2002	0.00%	2.07%	1.78%	0.26%	1.04%	0.02%
10/16/2002	-1.18%	0.92%	-2.70%	0.31%	-2.30%	-1.98%
10/15/2002	-3.47%	-1.80%	-1.48%	0.28%	1.12%	-0.23%
10/14/2002	-0.68%	-1.78%	-0.11%	0.10%	-8.19%	0.34%
10/11/2002	1.59%	-0.60%	1.67%	0.11%	0.30%	0.00%
10/10/2002	-1.37%	2.39%	-2.88%	0.20%	0.25%	0.00%
10/9/2002	-5.07%	1.80%	-4.36%	0.26%	-1.09%	-0.34%
10/8/2002	-4.83%	-1.32%	-2.67%	0.32%	-4.55%	0.57%
10/7/2002	4.40%	-2.26%	1.13%	0.24%	-0.03%	-0.57%

10/4/2002	1.51%	4.19%	2.71%	0.23%	3.12%	0.46%
10/3/2002	-6.11%	1.87%	0.41%	0.11%	-1.01%	-0.68%
10/2/2002	8.31%	-1.86%	5.65%	0.01%	6.66%	-0.57%
10/1/2002	-1.76%	-2.42%	4.48%	-0.03%	4.26%	-0.45%
9/30/2002	-5.73%	-1.19%	-2.54%	0.08%	-10.50%	0.11%
9/27/2002	-4.04%	1.78%	-4.32%	0.10%	-0.66%	0.56%
9/26/2002	1.00%	-1.05%	-2.02%	0.21%	-3.80%	0.00%
9/25/2002	0.20%	3.61%	1.21%	0.26%	0.00%	0.23%
9/24/2002	-4.51%	3.50%	-4.72%	0.27%	-2.60%	0.57%
9/23/2002	-1.52%	0.15%	0.07%	0.15%	0.00%	-0.11%
9/20/2002	-2.79%	1.81%	1.89%	0.19%	-3.66%	0.11%
9/19/2002	0.37%	2.66%	-2.43%	-0.03%	-0.88%	-0.11%
9/18/2002	0.55%	0.13%	-4.79%	-0.07%	-3.27%	-0.23%
9/17/2002	-2.74%	0.74%	-2.51%	-0.07%	-3.41%	0.00%
9/16/2002	2.00%	1.29%	-0.71%	-0.07%	1.31%	0.23%
9/13/2002	0.74%	-1.22%	-0.34%	-0.10%	0.76%	-0.91%
9/12/2002	0.74%	0.20%	2.27%	0.03%	0.05%	-0.11%
9/11/2002	-0.93%	0.27%	2.04%	0.07%	2.35%	-0.11%
9/10/2002	0.74%	0.96%	0.74%	0.14%	0.23%	0.00%
9/9/2002	-4.02%	1.88%	-2.92%	0.22%	0.65%	0.11%
9/6/2002	-1.95%	2.11%	-0.72%	0.31%	2.21%	0.45%
9/5/2002	-1.74%	0.23%	-2.75%	0.35%	0.26%	-0.11%
9/4/2002	0.87%	2.10%	-1.45%	0.32%	1.25%	0.34%
9/3/2002	-0.87%	-2.32%	-0.68%	0.27%	-0.36%	-0.23%
9/2/2002	1.74%	0.44%	3.19%	0.18%	0.02%	-0.20%
8/30/2002	3.57%	-2.75%	1.77%	0.08%	1.11%	0.18%
8/29/2002	0.73%	-1.33%	-3.17%	0.02%	-1.14%	-0.20%
8/28/2002	-1.99%	1.66%	2.46%	-0.01%	2.27%	0.11%
8/27/2002	10.60%	-0.47%	8.12%	0.01%	3.59%	0.00%
8/26/2002	-1.19%	0.19%	0.00%	0.01%	0.26%	-0.23%
8/23/2002	2.40%	-0.42%	5.54%	-0.04%	3.15%	0.36%
8/22/2002	-1.01%	1.26%	0.72%	-0.03%	0.24%	0.32%
8/21/2002	-2.96%	-0.41%	-2.34%	0.00%	-1.21%	-0.23%
8/20/2002	-1.92%	-3.69%	1.69%	-0.03%	-0.52%	0.23%
8/19/2002	-0.95%	4.10%	-0.84%	0.05%	0.52%	-0.20%
8/16/2002	-5.51%	1.42%	-3.15%	-0.01%	-1.71%	0.32%
8/15/2002	-3.85%	-0.08%	-0.77%	-0.01%	0.00%	0.34%
8/14/2002	2.26%	-2.61%	0.54%	-0.02%	-4.06%	-0.11%
8/13/2002	-3.62%	-0.13%	-8.66%	0.02%	-4.75%	0.09%
8/12/2002	-1.01%	4.11%	-4.64%	0.01%	2.70%	-0.43%
8/9/2002	2.38%	-2.00%	-4.18%	0.16%	0.68%	0.66%
8/8/2002	4.03%	0.70%	10.97%	0.18%	3.75%	0.02%
8/7/2002	4.39%	-0.02%	2.93%	0.19%	2.17%	0.11%
8/6/2002	-0.37%	-0.69%	0.76%	0.13%	-5.38%	-0.11%
8/5/2002	3.22%	-3.49%	5.42%	0.08%	2.25%	0.05%
8/2/2002	-0.96%	-4.68%	1.76%	0.03%	2.31%	-0.05%
8/1/2002	0.96%	7.60%	4.76%	-0.01%	3.31%	0.00%
7/31/2002	-7.41%	7.16%	-4.85%	-0.02%	3.01%	-0.11%
7/30/2002	0.00%	0.00%	-3.57%	0.03%	-3.12%	-0.11%
7/29/2002	-6.57%	-4.16%	-5.66%	-0.01%	-1.52%	-0.46%
7/26/2002	-0.33%	-0.29%	-7.11%	-0.02%	-0.88%	0.46%

7/25/2002	6.37%	2.95%	-2.03%	-0.03%	5.03%	-0.32%
7/24/2002	-6.86%	-2.20%	-4.53%	-0.01%	-7.43%	0.57%
7/23/2002	-4.86%	-2.19%	-6.76%	-0.04%	-1.50%	-0.25%
7/22/2002	-1.10%	2.09%	-0.72%	-0.03%	-4.71%	-0.23%
7/19/2002	3.98%	-2.09%	2.10%	-0.06%	-2.87%	0.00%
7/18/2002	1.80%	0.15%	-0.30%	-0.01%	1.35%	0.00%
7/17/2002	-2.45%	2.02%	3.07%	0.07%	1.53%	0.46%
7/16/2002	-1.76%	1.11%	-1.86%	0.06%	-1.79%	-0.23%
7/15/2002	0.00%	-1.84%	5.04%	-0.15%	-1.32%	0.00%
7/12/2002	0.32%	-1.72%	0.65%	-0.12%	3.20%	-1.25%
7/11/2002	-3.44%	-3.36%	-0.65%	-0.14%	-3.20%	1.02%
7/10/2002	-0.31%	0.83%	2.28%	-0.25%	-1.05%	0.69%
7/8/2002	-0.46%	-0.65%	-2.92%	-0.21%	0.20%	0.92%
7/5/2002	0.00%	-0.72%	-0.65%	-0.07%	-1.27%	-0.92%
7/4/2002	-3.30%	1.10%	-2.51%	-0.14%	-0.61%	0.23%
7/3/2002	3.46%	0.28%	1.88%	-0.07%	-1.31%	0.23%
7/2/2002	-3.90%	-1.38%	-1.26%	0.07%	-3.07%	-0.57%
7/1/2002	1.48%	0.68%	1.32%	0.04%	0.09%	0.92%
6/28/2002	3.03%	6.71%	0.95%	0.14%	1.95%	0.58%
6/27/2002	4.73%	2.23%	0.96%	0.19%	3.78%	-0.23%
6/26/2002	-3.17%	0.60%	1.30%	0.12%	4.95%	0.49%
6/25/2002	1.42%	-5.31%	3.99%	-0.12%	2.14%	0.89%
6/24/2002	-10.38%	0.29%	-2.75%	-0.15%	-5.59%	0.14%
6/21/2002	-4.88%	-2.29%	-2.54%	-0.21%	-6.01%	-0.47%
6/20/2002	-2.02%	1.15%	-4.23%	-0.18%	-0.84%	-0.02%
6/19/2002	-0.27%	-0.43%	2.31%	-0.13%	-1.11%	-0.09%
6/18/2002	2.29%	-2.24%	0.12%	-0.09%	-0.36%	0.23%
6/17/2002	-1.89%	0.98%	-2.62%	-0.04%	-4.54%	0.24%
6/14/2002	-1.72%	-2.36%	-1.94%	0.00%	-1.31%	-0.24%
6/13/2002	1.59%	-2.71%	-1.39%	0.03%	-0.02%	0.68%
6/12/2002	-0.13%	0.67%	-0.89%	-0.24%	-1.57%	-1.03%
6/11/2002	-0.40%	-1.21%	3.61%	-0.20%	1.19%	0.23%
6/10/2002	3.10%	0.67%	0.67%	-0.15%	-1.46%	-1.84%
6/7/2002	-3.36%	-1.50%	-6.05%	-0.22%	-1.85%	2.54%
6/6/2002	1.47%	0.19%	-1.16%	-0.26%	-1.07%	0.00%
6/5/2002	0.67%	1.87%	-0.57%	-0.14%	2.37%	-0.09%
6/4/2002	-3.32%	-0.10%	0.79%	-0.12%	-1.28%	1.40%
6/3/2002	-4.60%	1.42%	-2.16%	-0.19%	-0.56%	0.24%
5/31/2002	5.39%	2.20%	1.99%	-0.20%	-0.36%	-0.24%
5/29/2002	2.54%	1.98%	-1.14%	-0.18%	-1.33%	0.72%
5/28/2002	0.00%	-1.41%	-0.57%	-0.08%	2.06%	0.12%
5/27/2002	0.00%	2.11%	0.00%	-0.10%	-1.62%	-0.07%
5/24/2002	2.19%	0.02%	1.82%	-0.11%	1.62%	0.70%
5/23/2002	-5.77%	0.27%	-2.38%	-0.05%	-0.54%	0.46%
5/22/2002	0.92%	1.46%	0.00%	-0.05%	0.36%	0.24%
5/21/2002	-0.92%	1.17%	-0.56%	-0.06%	2.19%	0.00%
5/20/2002	0.00%	-0.46%	0.00%	-0.08%	0.93%	0.00%
5/17/2002	2.91%	-1.59%	1.41%	-0.05%	1.32%	0.49%
5/16/2002	3.97%	0.44%	3.75%	0.00%	1.54%	0.00%
5/15/2002	0.98%	-1.15%	-0.01%	-0.01%	0.55%	0.74%
5/14/2002	-2.64%	2.27%	-2.89%	-0.01%	-0.59%	0.37%

5/13/2002	2.93%	0.77%	-0.57%	0.05%	-3.19%	0.10%
5/10/2002	-5.10%	1.20%	-4.18%	0.05%	-0.55%	0.27%
5/9/2002	1.22%	1.80%	1.37%	-0.04%	1.86%	0.25%
5/8/2002	-5.30%	-1.06%	0.55%	-0.04%	-2.41%	-0.30%
5/7/2002	0.00%	1.51%	-0.26%	-0.02%	1.30%	-0.20%
5/6/2002	-1.92%	4.38%	-1.67%	-0.02%	-0.75%	0.50%
5/3/2002	-1.26%	-2.34%	-2.09%	-0.03%	-1.46%	0.25%
5/2/2002						

94.00%

Principal

Matriz de covariancia					
Usiminas	Vale	Itau	Dolar Spot	Petrobras	Telemar
0.076%	-0.013%	0.008%	0.000%	0.007%	0.000%
-0.013%	0.032%	-0.008%	0.000%	0.002%	-0.001%
0.008%	-0.008%	0.040%	0.000%	0.009%	0.000%
0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
0.007%	0.002%	0.009%	0.000%	0.030%	-0.001%
0.000%	-0.001%	0.000%	0.000%	-0.001%	0.001%

Modelo de Markowitz

Banco de Dados

Go

Matriz de Covariância

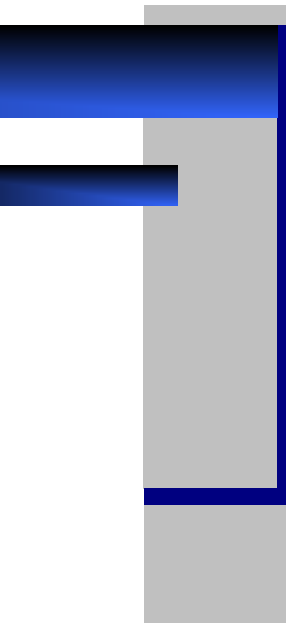
Go

Simulação

Go

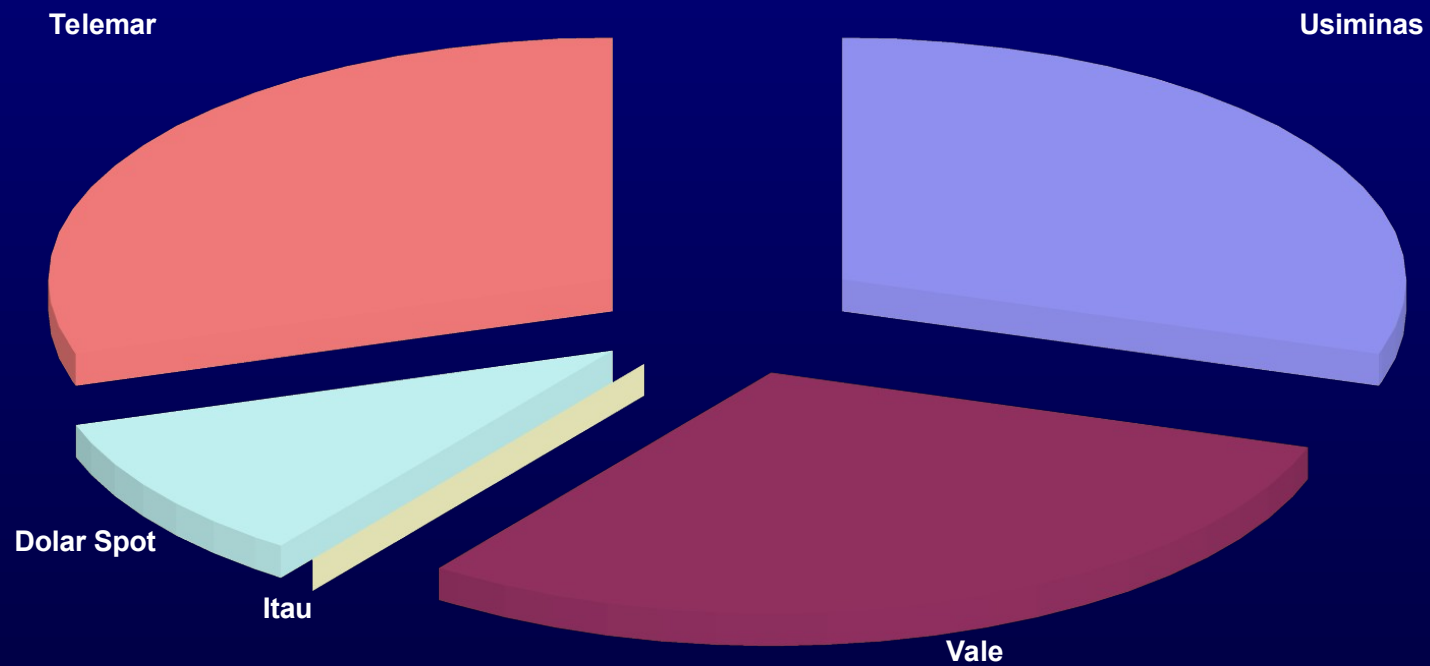
OBS: Os dados abaixo foram retirados do Broadcast no dia 13/05/2003

Para calcular a matriz de covariância favor pegar o add-in (suplemento) com o algoritmo no website
<http://www.risktech.com.br/>



Voltar

Modelo de Markowitz



Modelo de Markowitz

	Usiminas	Vale	Itau	Dolar Spot	Petrobras	Telemar
Comp da Carteira	30.00%	30.00%	0.00%	10.00%	0.00%	30.00%
Retorno esp diario	0.12%	0.11%	0.05%	-0.02%	0.01%	0.06%
Retorno esp Ano	33.73%	30.43%	12.25%	-3.72%	3.41%	15.15%
Limite Maximo	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
Limite Minimo	0.00%	0.00%	0.00%	10.00%	0.00%	0.00%
T Variancia	6.18%	0.99%	0.00%	0.02%	0.00%	-0.02%
Retornos	0.035%	0.032%	0.000%	-0.002%	0.000%	0.017%
Variancia	7.18%					
Retorno ano	22.81%					
Retorno Diario	0.082%					
R diario desejado	0.211%					
R ano desejado	70.00%					

Solver

Grafico

Principal

OBS: As células em branco devem receber as variáveis para a realização do calculo. O limite Maximo e m definem o limite da alocação do modelo em cada ativo. O retorno desejado calcula a menor variância para desejado.

Total	
100%	
Status	
OK	
OK	