

LR-J-133
Projections of Future Values of Internet Variables

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LR-J-133 is a Category 2 Library Reference sponsored by witness Bernstein (USPS-T-10). It consists of five excel spreadsheets used to make forecasts of future values of Internet variables. The forecasted values are used in the volume forecasts of Dr. George Tolley (USPS-T-7).

ALL DATA

MONTH	HISTORICAL CS96C_INT
88:1	0.012
88:2	0.015
88:3	0.017
88:4	0.019
88:5	0.022
88:6	0.024
88:7	0.026
88:8	0.028
88:9	0.031
88:10	0.033
88:11	0.035
88:12	0.037
89:1	0.037
89:2	0.039
89:3	0.041
89:4	0.044
89:5	0.046
89:6	0.048
89:7	0.050
89:8	0.053
89:9	0.056
89:10	0.059
89:11	0.062
89:12	0.065
90:1	0.068
90:2	0.072
90:3	0.076
90:4	0.081
90:5	0.088
90:6	0.094
90:7	0.101
90:8	0.107
90:9	0.116
90:10	0.123
90:11	0.132
90:12	0.142
91:1	0.154
91:2	0.165
91:3	0.174
91:4	0.181
91:5	0.190
91:6	0.197
91:7	0.205
91:8	0.213
91:9	0.220
91:10	0.228
91:11	0.234

ALL DATA

MONTH	HISTORICAL CS96C_INT
91:12	0.240
92:1	0.256
92:2	0.265
92:3	0.276
92:4	0.285
92:5	0.295
92:6	0.304
92:7	0.311
92:8	0.319
92:9	0.326
92:10	0.336
92:11	0.341
92:12	0.345
93:1	0.339
93:2	0.344
93:3	0.349
93:4	0.365
93:5	0.378
93:6	0.394
93:7	0.410
93:8	0.431
93:9	0.453
93:10	0.475
93:11	0.505
93:12	0.538
94:1	0.580
94:2	0.620
94:3	0.659
94:4	0.693
94:5	0.733
94:6	0.777
94:7	0.826
94:8	0.873
94:9	0.925
94:10	0.980
94:11	1.041
94:12	1.098
95:1	1.093
95:2	1.250
95:3	1.345
95:4	1.449
95:5	1.519
95:6	1.598
95:7	1.682
95:8	1.781
95:9	1.871
95:10	1.956

ALL DATA

MONTH	HISTORICAL CS96C_INT
95:11	2.064
95:12	2.145
96:1	2.233
96:2	2.359
96:3	2.449
96:4	2.529
96:5	2.630
96:6	2.711
96:7	2.797
96:8	2.894
96:9	2.982
96:10	3.070
96:11	3.151
96:12	3.243
97:1	3.416
97:2	3.566
97:3	3.668
97:4	3.645
97:5	3.654
97:6	3.653
97:7	3.649
97:8	3.648
97:9	3.742
97:10	3.892
97:11	3.928
97:12	4.036
98:1	4.174
98:2	4.278
98:3	4.374
98:4	4.489
98:5	4.658
98:6	4.743
98:7	4.932
98:8	5.122
98:9	5.305
98:10	5.443
98:11	5.579
98:12	5.715
99:1	5.953
99:2	6.191
99:3	6.429
99:4	6.686
99:5	6.865
99:6	7.037
99:7	7.232
99:8	7.417
99:9	7.462

ALL DATA

MONTH	HISTORICAL CS96C_INT
99:10	7.913
99:11	8.375
99:12	8.828
00:1	9.551
00:2	10.477
00:3	11.330
00:4	12.224
00:5	13.105
00:6	13.869
00:7	14.789
00:8	15.741
00:9	16.747
00:10	17.994
00:11	19.298
00:12	20.638
01:1	21.149
01:2	21.790
01:3	22.338
01:4	22.885

SUBSET OF DATA

MONTH	HISTORICAL CS96C_INT	ACTIVE USERS	DOLLARS PER USER
99:4	6.686	57.6	\$9.67
99:5	6.865	61.4	\$9.32
99:6	7.037	63.4	\$9.25
99:7	7.232	62.8	\$9.60
99:8	7.417	66.8	\$9.25
99:9	7.462	65.0	\$9.57
99:10	7.913	67.8	\$9.73
99:11	8.375	74.0	\$9.43
99:12	8.828	74.1	\$9.93
00:1	9.551	77.0	\$10.34
00:2	10.477	76.5	\$11.42
00:3	11.330	81.6	\$11.57
00:4	12.224	80.3	\$12.69
00:5	13.105	82.7	\$13.21
00:6	13.869	83.8	\$13.79
00:7	14.789	88.2	\$13.97
00:8	15.741	89.4	\$14.67
00:9	16.747	89.1	\$15.66
00:10	17.994	91.1	\$16.46
00:11	19.298	95.4	\$16.86
00:12	20.638	98.5	\$17.46
01:1	21.149	100.7	\$17.51
01:2	21.790	99.2	\$18.30
01:3	22.338	102.1	\$18.23
01:4	22.885	102.5	\$18.61
01:5		103.0	

Bass Curve for Active Internet Users

Actual Data Thru May-01

Month	Active Users	Fitted	Error	ESS
Apr-99	57.60	57.60	0.000000	0.000000
May-99	61.40	59.69	-1.712161	2.931496
Jun-99	63.40	61.76	-1.641821	2.695577
Jul-99	62.80	63.81	1.011166	1.022457
Aug-99	66.80	65.85	-0.953053	0.908310
Sep-99	65.00	67.87	2.865665	8.212036
Oct-99	67.80	69.87	2.067463	4.274405
Nov-99	74.00	71.85	-2.147516	4.611825
Dec-99	74.10	73.82	-0.279133	0.077915
Jan-00	77.00	75.77	-1.227247	1.506135
Feb-00	76.48	77.71	1.232178	1.518262
Mar-00	81.60	79.63	-1.972417	3.890429
Apr-00	80.30	81.53	1.230800	1.514869
May-00	82.70	83.42	0.718066	0.515619
Jun-00	83.80	85.29	1.489514	2.218652
Jul-00	88.20	87.15	-1.054724	1.112442
Aug-00	89.40	88.99	-0.414515	0.171823
Sep-00	89.10	90.81	1.710270	2.925025
Oct-00	91.10	92.62	1.519761	2.309675
Nov-00	95.40	94.41	-0.985914	0.972026
Dec-00	98.48	96.19	-2.286969	5.230229
Jan-01	100.65	97.96	-2.696955	7.273567
Feb-01	99.21	99.71	0.502203	0.252208
Mar-01	102.10	101.44	-0.662021	0.438272
Apr-01	102.47	103.16	0.695966	0.484369
May-01	103.01	104.87	1.858594	3.454372

	60.521993
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Minimize ESS by choosing m, p, q, d

Solver:

<u>m</u>	<u>p</u>	<u>q</u>	<u>d</u>
306.70	0.006322	0.002059	0.000000

Final Parameter Estimates

m=ceiling	p=exogenous	q=endogenous	delta
306.70	0.006322	0.002059	0.000000

Forecasts are made by applying fitted growth rate to value in May-01

Jun-01	104.67	106.56
Jul-01	106.32	108.24
Aug-01	107.95	109.90
Sep-01	109.57	111.55
Oct-01	111.18	113.19
Nov-01	112.77	114.81
Dec-01	114.35	116.42
Jan-02	115.92	118.01
Feb-02	117.47	119.59

Mar-02	119.01	121.16
Apr-02	120.54	122.72
May-02	122.06	124.26
Jun-02	123.56	125.79
Jul-02	125.05	127.30
Aug-02	126.52	128.81
Sep-02	127.99	130.30
Oct-02	129.44	131.78
Nov-02	130.88	133.24
Dec-02	132.31	134.70
Jan-03	133.73	136.14
Feb-03	135.13	137.57
Mar-03	136.52	138.99
Apr-03	137.90	140.39
May-03	139.27	141.79
Jun-03	140.63	143.17
Jul-03	141.98	144.54
Aug-03	143.31	145.90
Sep-03	144.64	147.25
Oct-03	145.95	148.58
Nov-03	147.25	149.91
Dec-03	148.54	151.22
Jan-04	149.82	152.52
Feb-04	151.09	153.82
Mar-04	152.35	155.10
Apr-04	153.60	156.37
May-04	154.84	157.63
Jun-04	156.06	158.88
Jul-04	157.28	160.12
Aug-04	158.49	161.35
Sep-04	159.68	162.56
Oct-04	160.87	163.77
Nov-04	162.05	164.97
Dec-04	163.21	166.16
Jan-05	164.37	167.34
Feb-05	165.52	168.50
Mar-05	166.66	169.66
Apr-05	167.78	170.81
May-05	168.90	171.95
Jun-05	170.01	173.08
Jul-05	171.11	174.20
Aug-05	172.20	175.31
Sep-05	173.28	176.41
Oct-05	174.36	177.50
Nov-05	175.42	178.59
Dec-05	176.48	179.66
Jan-06	177.52	180.72
Feb-06	178.56	181.78
Mar-06	179.59	182.83
Apr-06	180.61	183.87
May-06	181.62	184.90
Jun-06	182.62	185.92

Jul-06	183.62	186.93
Aug-06	184.60	187.93
Sep-06	185.58	188.93
Oct-06	186.55	189.92
Nov-06	187.51	190.89
Dec-06	188.46	191.86
Jan-07	189.41	192.83
Feb-07	190.35	193.78
Mar-07	191.28	194.73
Apr-07	192.20	195.67
May-07	193.11	196.60
Jun-07	194.02	197.52
Jul-07	194.92	198.44
Aug-07	195.81	199.34
Sep-07	196.69	200.24
Oct-07	197.57	201.14
Nov-07	198.44	202.02
Dec-07	199.30	202.90
Jan-08	200.16	203.77
Feb-08	201.00	204.63
Mar-08	201.84	205.49
Apr-08	202.68	206.33
May-08	203.50	207.18
Jun-08	204.32	208.01
Jul-08	205.14	208.84
Aug-08	205.94	209.66
Sep-08	206.74	210.47
Oct-08	207.53	211.28
Nov-08	208.32	212.08
Dec-08	209.10	212.87
Jan-09	209.87	213.66
Feb-09	210.64	214.44
Mar-09	211.40	215.21
Apr-09	212.15	215.98
May-09	212.90	216.74
Jun-09	213.64	217.49
Jul-09	214.37	218.24
Aug-09	215.10	218.98
Sep-09	215.82	219.72
Oct-09	216.54	220.44
Nov-09	217.25	221.17
Dec-09	217.95	221.88
Jan-10	218.65	222.60
Feb-10	219.34	223.30
Mar-10	220.03	224.00
Apr-10	220.71	224.69
May-10	221.39	225.38
Jun-10	222.05	226.06
Jul-10	222.72	226.74
Aug-10	223.38	227.41
Sep-10	224.03	228.07
Oct-10	224.68	228.73

Nov-10	225.32	229.38
Dec-10	225.96	230.03
Jan-11	226.59	230.68
Feb-11	227.21	231.31
Mar-11	227.83	231.94
Apr-11	228.45	232.57
May-11	229.06	233.19
Jun-11	229.66	233.81
Jul-11	230.26	234.42
Aug-11	230.86	235.03
Sep-11	231.45	235.63
Oct-11	232.04	236.22
Nov-11	232.62	236.81
Dec-11	233.19	237.40
Jan-12	233.76	237.98
Feb-12	234.33	238.56
Mar-12	234.89	239.13
Apr-12	235.44	239.69
May-12	236.00	240.25
Jun-12	236.54	240.81
Jul-12	237.09	241.36
Aug-12	237.62	241.91
Sep-12	238.16	242.45
Oct-12	238.69	242.99
Nov-12	239.21	243.53
Dec-12	239.73	244.06
Jan-13	240.25	244.58
Feb-13	240.76	245.10
Mar-13	241.27	245.62
Apr-13	241.77	246.13
May-13	242.27	246.64
Jun-13	242.76	247.14
Jul-13	243.25	247.64
Aug-13	243.74	248.14
Sep-13	244.22	248.63
Oct-13	244.70	249.11
Nov-13	245.17	249.60
Dec-13	245.64	250.07
Jan-14	246.11	250.55
Feb-14	246.57	251.02
Mar-14	247.03	251.49
Apr-14	247.48	251.95
May-14	247.94	252.41
Jun-14	248.38	252.86
Jul-14	248.83	253.31
Aug-14	249.26	253.76
Sep-14	249.70	254.21
Oct-14	250.13	254.65
Nov-14	250.56	255.08
Dec-14	250.99	255.52
Jan-15	251.41	255.94
Feb-15	251.83	256.37

Mar-15	252.24	256.79
Apr-15	252.65	257.21
May-15	253.06	257.62
Jun-15	253.46	258.04
Jul-15	253.86	258.44
Aug-15	254.26	258.85
Sep-15	254.65	259.25
Oct-15	255.05	259.65
Nov-15	255.43	260.04
Dec-15	255.82	260.43
Jan-16	256.20	260.82
Feb-16	256.58	261.21
Mar-16	256.95	261.59
Apr-16	257.32	261.96
May-16	257.69	262.34
Jun-16	258.06	262.71
Jul-16	258.42	263.08
Aug-16	258.78	263.45
Sep-16	259.13	263.81
Oct-16	259.49	264.17
Nov-16	259.84	264.52
Dec-16	260.18	264.88
Jan-17	260.53	265.23
Feb-17	260.87	265.58
Mar-17	261.21	265.92
Apr-17	261.54	266.26
May-17	261.88	266.60
Jun-17	262.21	266.94
Jul-17	262.53	267.27
Aug-17	262.86	267.60
Sep-17	263.18	267.93
Oct-17	263.50	268.25
Nov-17	263.82	268.58
Dec-17	264.13	268.90
Jan-18	264.44	269.21
Feb-18	264.75	269.53
Mar-18	265.06	269.84
Apr-18	265.36	270.15
May-18	265.66	270.45
Jun-18	265.96	270.76
Jul-18	266.26	271.06
Aug-18	266.55	271.36
Sep-18	266.84	271.65
Oct-18	267.13	271.95
Nov-18	267.41	272.24
Dec-18	267.70	272.53
Jan-19	267.98	272.81
Feb-19	268.26	273.10
Mar-19	268.54	273.38
Apr-19	268.81	273.66
May-19	269.08	273.94
Jun-19	269.35	274.21

Jul-19	269.62	274.48
Aug-19	269.88	274.75
Sep-19	270.15	275.02
Oct-19	270.41	275.29
Nov-19	270.67	275.55
Dec-19	270.92	275.81
Jan-20	271.18	276.07
Feb-20	271.43	276.33
Mar-20	271.68	276.58
Apr-20	271.93	276.83
May-20	272.17	277.08
Jun-20	272.42	277.33
Jul-20	272.66	277.58
Aug-20	272.90	277.82
Sep-20	273.14	278.07
Oct-20	273.37	278.31
Nov-20	273.61	278.54
Dec-20	273.84	278.78
Jan-21	274.07	279.01
Feb-21	274.30	279.25
Mar-21	274.52	279.48
Apr-21	274.75	279.70
May-21	274.97	279.93
Jun-21	275.19	280.15
Jul-21	275.41	280.38
Aug-21	275.62	280.60
Sep-21	275.84	280.82
Oct-21	276.05	281.03
Nov-21	276.26	281.25
Dec-21	276.47	281.46
Jan-22	276.68	281.67
Feb-22	276.89	281.88
Mar-22	277.09	282.09
Apr-22	277.29	282.30
May-22	277.50	282.50
Jun-22	277.69	282.71
Jul-22	277.89	282.91
Aug-22	278.09	283.11
Sep-22	278.28	283.30
Oct-22	278.48	283.50
Nov-22	278.67	283.69
Dec-22	278.86	283.89
Jan-23	279.04	284.08
Feb-23	279.23	284.27
Mar-23	279.41	284.46
Apr-23	279.60	284.64
May-23	279.78	284.83
Jun-23	279.96	285.01
Jul-23	280.14	285.19
Aug-23	280.32	285.37
Sep-23	280.49	285.55
Oct-23	280.66	285.73

Nov-23	280.84	285.90
Dec-23	281.01	286.08
Jan-24	281.18	286.25
Feb-24	281.35	286.42
Mar-24	281.51	286.59
Apr-24	281.68	286.76
May-24	281.84	286.93
Jun-24	282.01	287.09
Jul-24	282.17	287.26
Aug-24	282.33	287.42
Sep-24	282.49	287.58
Oct-24	282.64	287.74
Nov-24	282.80	287.90
Dec-24	282.96	288.06
Jan-25	283.11	288.22
Feb-25	283.26	288.37
Mar-25	283.41	288.53
Apr-25	283.56	288.68
May-25	283.71	288.83
Jun-25	283.86	288.98
Jul-25	284.00	289.13
Aug-25	284.15	289.27
Sep-25	284.29	289.42
Oct-25	284.43	289.57
Nov-25	284.57	289.71
Dec-25	284.71	289.85
Jan-26	284.85	289.99
Feb-26	284.99	290.13
Mar-26	285.13	290.27
Apr-26	285.26	290.41
May-26	285.40	290.55
Jun-26	285.53	290.68
Jul-26	285.66	290.82
Aug-26	285.79	290.95
Sep-26	285.92	291.08
Oct-26	286.05	291.21
Nov-26	286.18	291.34
Dec-26	286.30	291.47
Jan-27	286.43	291.60
Feb-27	286.55	291.72
Mar-27	286.68	291.85
Apr-27	286.80	291.97
May-27	286.92	292.10
Jun-27	287.04	292.22
Jul-27	287.16	292.34
Aug-27	287.28	292.46
Sep-27	287.40	292.58
Oct-27	287.51	292.70
Nov-27	287.63	292.82
Dec-27	287.74	292.93
Jan-28	287.86	293.05
Feb-28	287.97	293.16

Mar-28	288.08	293.28
Apr-28	288.19	293.39
May-28	288.30	293.50
Jun-28	288.41	293.61
Jul-28	288.52	293.72
Aug-28	288.62	293.83
Sep-28	288.73	293.94
Oct-28	288.83	294.05
Nov-28	288.94	294.15
Dec-28	289.04	294.26
Jan-29	289.14	294.36
Feb-29	289.25	294.46
Mar-29	289.35	294.57
Apr-29	289.45	294.67
May-29	289.55	294.77
Jun-29	289.64	294.87
Jul-29	289.74	294.97
Aug-29	289.84	295.07
Sep-29	289.93	295.16
Oct-29	290.03	295.26
Nov-29	290.12	295.36
Dec-29	290.22	295.45
Jan-30	290.31	295.55
Feb-30	290.40	295.64
Mar-30	290.49	295.73
Apr-30	290.58	295.83
May-30	290.67	295.92
Jun-30	290.76	296.01
Jul-30	290.85	296.10
Aug-30	290.94	296.19
Sep-30	291.02	296.27
Oct-30	291.11	296.36
Nov-30	291.19	296.45
Dec-30	291.28	296.53
Jan-31	291.36	296.62
Feb-31	291.44	296.70
Mar-31	291.53	296.79
Apr-31	291.61	296.87
May-31	291.69	296.95
Jun-31	291.77	297.03
Jul-31	291.85	297.12
Aug-31	291.93	297.20
Sep-31	292.01	297.28
Oct-31	292.08	297.35
Nov-31	292.16	297.43
Dec-31	292.24	297.51
Jan-32	292.31	297.59
Feb-32	292.39	297.66
Mar-32	292.46	297.74
Apr-32	292.54	297.82
May-32	292.61	297.89
Jun-32	292.68	297.96

Jul-32	292.75	298.04
Aug-32	292.83	298.11
Sep-32	292.90	298.18
Oct-32	292.97	298.25
Nov-32	293.04	298.32
Dec-32	293.11	298.39
Jan-33	293.17	298.46
Feb-33	293.24	298.53
Mar-33	293.31	298.60
Apr-33	293.38	298.67
May-33	293.44	298.74
Jun-33	293.51	298.80
Jul-33	293.57	298.87
Aug-33	293.64	298.94
Sep-33	293.70	299.00
Oct-33	293.76	299.06
Nov-33	293.83	299.13
Dec-33	293.89	299.19
Jan-34	293.95	299.26
Feb-34	294.01	299.32
Mar-34	294.07	299.38
Apr-34	294.13	299.44
May-34	294.19	299.50
Jun-34	294.25	299.56
Jul-34	294.31	299.62
Aug-34	294.37	299.68
Sep-34	294.43	299.74
Oct-34	294.49	299.80
Nov-34	294.54	299.86
Dec-34	294.60	299.91
Jan-35	294.65	299.97
Feb-35	294.71	300.03
Mar-35	294.76	300.08
Apr-35	294.82	300.14
May-35	294.87	300.19

Time Trend Regression of Average Dollars per User
 Beginning 1999.4 and ending 2001.4
 25 observations

	Date	\$/User	T	Fitted	Residual	% Residual
ACTUAL	99.4	\$9.57	1	\$7.60	\$2.07	21.45%
	99.5	\$9.32	2	\$8.05	\$1.26	13.56%
	99.6	\$9.25	3	\$8.51	\$0.74	8.01%
	99.7	\$9.60	4	\$8.96	\$0.63	6.59%
	99.8	\$9.25	5	\$9.42	-\$0.17	-1.80%
	99.9	\$9.57	6	\$9.87	-\$0.31	-3.21%
	99.10	\$9.73	7	\$10.33	-\$0.60	-6.20%
	99.11	\$9.43	8	\$10.78	-\$1.35	-14.34%
	99.12	\$9.93	9	\$11.24	-\$1.31	-13.21%
	00.1	\$10.34	10	\$11.69	-\$1.36	-13.14%
	00.2	\$11.42	11	\$12.15	-\$0.73	-6.42%
	00.3	\$11.57	12	\$12.60	-\$1.03	-8.94%
	00.4	\$12.69	13	\$13.06	-\$0.37	-2.95%
	00.5	\$13.21	14	\$13.51	-\$0.31	-2.34%
	00.6	\$13.73	15	\$13.97	-\$0.18	-1.29%
	00.7	\$13.97	16	\$14.43	-\$0.45	-3.24%
	00.8	\$14.67	17	\$14.88	-\$0.21	-1.41%
	00.9	\$15.66	18	\$15.34	-\$0.33	-2.09%
	00.10	\$16.46	19	\$15.79	-\$0.67	-4.07%
	00.11	\$16.86	20	\$16.25	-\$0.61	-3.63%
	00.12	\$17.46	21	\$16.70	-\$0.76	-4.37%
	01.1	\$17.51	22	\$17.16	-\$0.35	-2.02%
	01.2	\$18.30	23	\$17.61	-\$0.69	-3.79%
	01.3	\$18.23	24	\$18.07	-\$0.17	-0.91%
	01.4	\$18.61	25	\$18.52	-\$0.09	-0.49%
FORECASTED	01.5	\$19.07				
	01.6	\$19.52				
	01.7	\$19.98				
	01.8	\$20.43				
	01.9	\$20.89				
	01.10	\$21.34				
	01.11	\$21.80				
	01.12	\$22.25				
	02.1	\$22.71				
	02.2	\$23.16				
	02.3	\$23.62				
	02.4	\$24.07				
	02.5	\$24.53				
	02.6	\$24.98				
	02.7	\$25.44				
	02.8	\$25.89				
	02.9	\$26.35				
	02.10	\$26.80				
	02.11	\$27.26				
	02.12	\$27.71				
	03.1	\$28.17				
	03.2	\$28.62				
	03.3	\$29.08				
	03.4	\$29.53				
	03.5	\$29.99				
	03.6	\$30.44				
	03.7	\$30.90				
	03.8	\$31.35				
	03.9	\$31.81				
	03.10	\$32.26				
	03.11	\$32.72				
	03.12	\$33.18				
	04.1	\$33.63				
	04.2	\$34.09				
	04.3	\$34.54				
	04.4	\$35.00				
	04.5	\$35.45				
	04.6	\$35.91				
	04.7	\$36.36				
	04.8	\$36.82				
	04.9	\$37.27				
	04.10	\$37.73				
	04.11	\$38.18				
	04.12	\$38.64				
	05.1	\$39.09				
	05.2	\$39.55				
	05.3	\$40.00				
	05.4	\$40.46				
	05.5	\$40.91				
	05.6	\$41.37				
	05.7	\$41.82				
	05.8	\$42.28				
	05.9	\$42.73				
	05.10	\$43.19				
	05.11	\$43.64				
	05.12	\$44.10				

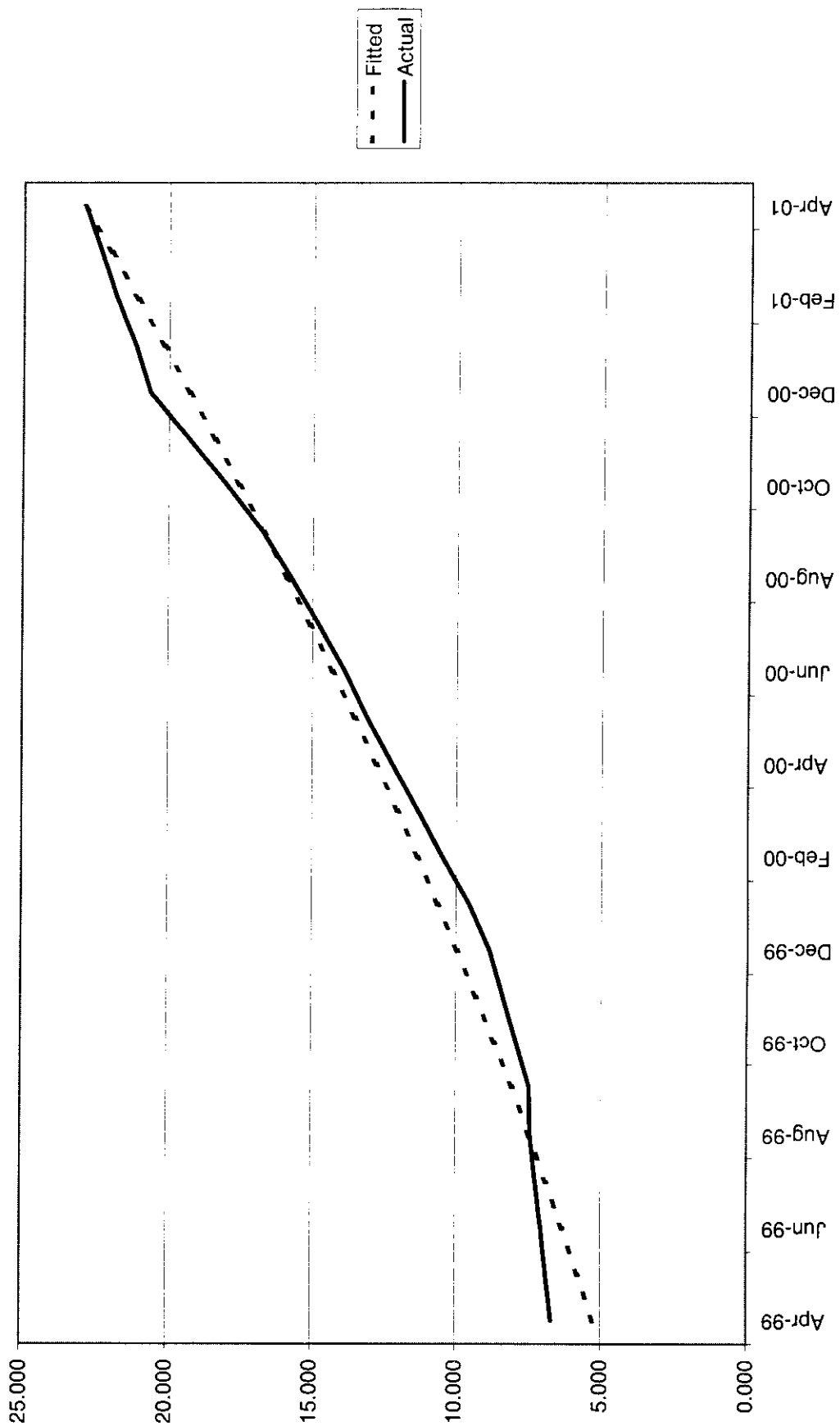
SUMMARY OUTPUT

Regression Statistics						
Multiple R	0.9696					
R Square	0.9406					
Adjusted R S	0.9380					
Standard Err	0.8596					
Observations	25					

ANOVA					
	df	SS	MS	F	Significance F
Regression	1	269.2568	269.2568	364.1991	1.3403E-15
Residual	23	17.0042	0.7393		
Total	24	286.2610			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	7.1434	0.3545	20.1496	4.1105E-16	6.4100	7.8768	6.4100	7.8768
X Variable 1	0.4551	0.0238	19.0840	1.3403E-15	0.4058	0.5044	0.4058	0.5044

Chart D
Comparison of Actual and Fitted ISP



COMPARISON OF FITTED AND ACTUAL VALUES

FORECASTED VALUES

MONTH	FITTED VALUES			ACTUAL ISP	PERCENT DIFFERENCE	SQUARED DIFFERENCE	MONTH	USERS	\$/USER	ISP
	USERS	\$/USER	ISP							
Apr-99	57.60	\$7.60	5.252	6.686	-21.45%	0.045996	01:5	103.01	\$19.07	\$23.569
May-99	59.69	\$8.05	5.768	6.865	-15.97%	0.025515	01:6	104.67	\$19.52	\$24.521
Jun-99	61.76	\$8.51	6.306	7.037	-10.39%	0.010797	01:7	106.32	\$19.98	\$25.487
Jul-99	63.81	\$8.96	6.864	7.232	-5.09%	0.002591	01:8	107.95	\$20.43	\$26.469
Aug-99	65.85	\$9.42	7.442	7.417	0.34%	0.000012	01:9	109.57	\$20.89	\$27.464
Sep-99	67.87	\$9.87	8.041	7.462	7.76%	0.006026	01:10	111.18	\$21.34	\$28.474
Oct-99	69.87	\$10.33	8.660	7.913	9.44%	0.008912	01:11	112.77	\$21.80	\$29.498
Nov-99	71.85	\$10.78	9.298	8.375	11.03%	0.012159	01:12	114.35	\$22.25	\$30.536
Dec-99	73.82	\$11.24	9.956	8.828	12.78%	0.016337	02:1	115.92	\$22.71	\$31.587
Jan-00	75.77	\$11.69	10.633	9.551	11.33%	0.012844	02:2	117.47	\$23.16	\$32.652
Feb-00	77.71	\$12.15	11.329	10.477	8.14%	0.006620	02:3	119.01	\$23.62	\$33.730
Mar-00	79.63	\$12.60	12.044	11.330	6.30%	0.003973	02:4	120.54	\$24.07	\$34.822
Apr-00	81.53	\$13.06	12.777	12.224	4.53%	0.002049	02:5	122.06	\$24.53	\$35.926
May-00	83.42	\$13.51	13.529	13.105	3.23%	0.001045	02:6	123.56	\$24.98	\$37.043
Jun-00	85.29	\$13.97	14.298	13.869	3.09%	0.000956	02:7	125.05	\$25.44	\$38.172
Jul-00	87.15	\$14.43	15.085	14.789	2.00%	0.000400	02:8	126.52	\$25.89	\$39.314
Aug-00	88.99	\$14.88	15.889	15.741	0.94%	0.000089	02:9	127.99	\$26.35	\$40.468
Sep-00	90.81	\$15.34	16.711	16.747	-0.21%	0.000005	02:10	129.44	\$26.80	\$41.634
Oct-00	92.62	\$15.79	17.550	17.994	-2.47%	0.000609	02:11	130.88	\$27.26	\$42.812
Nov-00	94.41	\$16.25	18.406	19.298	-4.62%	0.002138	02:12	132.31	\$27.71	\$44.002
Dec-00	96.19	\$16.70	19.278	20.638	-6.59%	0.004344	03:1	133.73	\$28.17	\$45.203
Jan-01	97.96	\$17.16	20.166	21.149	-4.65%	0.002159	03:2	135.13	\$28.62	\$46.416
Feb-01	99.71	\$17.61	21.071	21.790	-3.30%	0.001088	03:3	136.52	\$29.08	\$47.640
Mar-01	101.44	\$18.07	21.992	22.338	-1.55%	0.000240	03:4	137.90	\$29.53	\$48.875
Apr-01	103.16	\$18.52	22.928	22.885	0.19%	0.000004	03:5	139.27	\$29.99	\$50.120
							03:6	140.63	\$30.44	\$51.377
						0.166906	03:7	141.98	\$30.90	\$52.644
						0.006676	03:8	143.31	\$31.35	\$53.922
						0.081709	03:9	144.64	\$31.81	\$55.210
							03:10	145.95	\$32.26	\$56.508
							03:11	147.25	\$32.72	\$57.816
							03:12	148.54	\$33.18	\$59.134
							04:1	149.82	\$33.63	\$60.462
							04:2	151.09	\$34.09	\$61.800
							04:3	152.35	\$34.54	\$63.147
							04:4	153.60	\$35.00	\$64.503
							04:5	154.84	\$35.45	\$65.868
							04:6	156.06	\$35.91	\$67.242
							04:7	157.28	\$36.36	\$68.626
							04:8	158.49	\$36.82	\$70.018
							04:9	159.68	\$37.27	\$71.419
							04:10	160.87	\$37.73	\$72.828
							04:11	162.05	\$38.18	\$74.246
							04:12	163.21	\$38.64	\$75.672
							05:1	164.37	\$39.09	\$77.106
							05:2	165.52	\$39.55	\$78.548
							05:3	166.66	\$40.00	\$79.998
							05:4	167.78	\$40.46	\$81.456
							05:5	168.90	\$40.91	\$82.922
							05:6	170.01	\$41.37	\$84.395
							05:7	171.11	\$41.82	\$85.875
							05:8	172.20	\$42.28	\$87.363
							05:9	173.28	\$42.73	\$88.858
							05:10	174.36	\$43.19	\$90.361
							05:11	175.42	\$43.64	\$91.870
							05:12	176.48	\$44.10	\$93.386

Advertising Expenditures (Millions of Dollars): 1935 to 2000

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Newspapers	14,794.0	16,528.0	17,694.0	20,582.0	23,522.0	25,170.0	26,990.0	29,412.0	31,197.0	32,368.0
percent of total advertising	27.6	27.3	26.5	27.1	26.7	26.5	26.4	26.7	26.3	25.9
Magazines	3,149.0	3,533.0	3,710.0	4,233.0	4,932.0	5,155.0	5,317.0	5,607.0	6,072.0	6,716.0
percent of total advertising	5.9	5.8	5.6	5.6	5.6	5.4	5.2	5.1	5.1	5.4
Direct Mail	7,596.0	8,944.0	10,319.0	11,795.0	13,800.0	15,500.0	17,145.0	19,111.0	21,115.0	21,945.0
percent of total advertising	14.2	14.8	15.5	15.5	15.7	16.3	16.7	17.3	17.8	17.6
Television - Broadcast	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
percent of total advertising	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Television - Cable	72.0	160.0	290.0	452.0	733.0	989.0	1,173.0	1,321.0	1,641.0	2,095.0
percent of total advertising	0.1	0.3	0.4	0.6	0.8	1.0	1.1	1.2	1.4	1.7
Television - Other	11,416.0	12,729.0	14,423.0	16,427.0	19,310.0	20,298.0	22,026.0	22,941.0	24,490.0	25,364.0
percent of total advertising	21.3	21.1	21.6	21.6	21.9	21.4	21.5	20.8	20.6	20.3
Television - Total	11,488.0	12,889.0	14,713.0	16,879.0	20,043.0	21,287.0	23,199.0	24,262.0	26,131.0	27,459.0
percent of total advertising	21.5	21.3	22.1	22.2	22.8	22.4	22.7	22.0	22.0	22.0
Internet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
percent of total advertising	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Radio	3,702.0	4,230.0	4,670.0	5,210.0	5,813.0	6,490.0	6,949.0	7,206.0	7,798.0	8,323.0
percent of total advertising	6.9	7.0	7.0	6.9	6.6	6.8	6.8	6.5	6.6	6.7
Business Publications	1,674.0	1,841.0	1,876.0	1,990.0	2,270.0	2,375.0	2,382.0	2,458.0	2,610.0	2,763.0
percent of total advertising	3.1	3.0	2.8	2.6	2.6	2.5	2.3	2.2	2.2	2.2
Outdoor	578.0	650.0	721.0	794.0	872.0	945.0	985.0	1,025.0	1,064.0	1,111.0
percent of total advertising	1.1	1.1	1.1	1.0	1.0	1.0	1.0	0.9	0.9	0.9
Farm	130.0	146.0	148.0	163.0	181.0	186.0	192.0	196.0	196.0	212.0
percent of total advertising	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Yellow Pages	2,900.0	3,300.0	3,800.0	4,400.0	4,900.0	5,800.0	6,500.0	7,300.0	7,781.0	8,330.0
percent of total advertising	5.4	5.5	5.7	5.8	5.6	6.1	6.3	6.6	6.6	6.7
Miscellaneous	7,532.0	8,399.0	9,019.0	9,954.0	11,673.0	11,992.0	12,711.0	13,693.0	14,786.0	15,543.0
percent of total advertising	14.1	13.9	13.5	13.1	13.3	12.6	12.4	12.4	12.5	12.5
Total	53,543.0	60,460.0	66,670.0	76,000.0	88,006.0	94,900.0	102,370.0	110,270.0	118,750.0	124,770.0
percent of total advertising	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
32,281.0	30,409.0	30,737.0	32,025.0	34,356.0	36,317.0	38,402.0	41,670.0	44,292.0	46,582.0	49,500.0
24.9	23.9	23.2	23.0	22.7	22.3	21.9	22.1	21.9	21.4	20.8
6,803.0	6,524.0	7,000.0	7,357.0	7,916.0	8,580.0	9,010.0	9,821.0	10,518.0	11,096.0	11,930.0
5.2	5.1	5.3	5.3	5.2	5.3	5.1	5.2	5.2	5.1	5.0
23,370.0	24,460.0	25,391.0	27,266.0	29,638.0	32,866.0	34,509.0	36,890.0	39,620.0	41,601.0	44,515.0
18.0	19.2	19.1	19.5	19.6	20.2	19.7	19.6	19.6	19.1	18.7
9,863.0	9,533.0	10,249.0	10,209.0	10,942.0	11,600.0	13,081.0	13,020.0	13,736.0	14,698.0	16,020.0
7.6	7.5	7.7	7.3	7.2	7.1	7.5	6.9	6.8	6.7	6.7
2,457.0	2,728.0	3,201.0	3,678.0	4,302.0	5,108.0	6,438.0	7,626.0	8,301.0	9,807.0	11,150.0
1.9	2.1	2.4	2.6	2.8	3.1	3.7	4.0	4.1	4.5	4.7
16,753.0	15,928.0	17,000.0	17,811.0	20,191.0	21,120.0	22,965.0	23,873.0	22,093.0	22,969.0	23,673.0
12.9	12.5	12.8	12.8	13.3	13.0	13.1	12.7	10.9	10.5	10.0
29,073.0	28,189.0	30,450.0	31,698.0	35,435.0	37,828.0	42,484.0	44,519.0	44,130.0	47,474.0	50,843.0
22.4	22.1	23.0	22.7	23.4	23.2	24.2	23.6	21.8	21.8	21.4
0.0	0.0	0.0	0.0	0.0	0.0	266.4	906.5	1,920.9	4,604.4	8,225.0
0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.9	2.1	3.5
8,726.0	8,476.0	8,654.0	9,457.0	10,295.0	11,338.0	12,269.0	13,491.0	15,073.0	16,930.0	18,420.0
6.7	6.6	6.5	6.8	6.8	7.0	7.0	7.2	7.4	7.8	7.7
2,875.0	2,882.0	3,090.0	3,260.0	3,358.0	3,559.0	3,808.0	4,109.0	4,232.0	4,443.0	4,775.0
2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.0	2.0
1,084.0	1,077.0	1,031.0	1,090.0	1,167.0	1,263.0	1,339.0	1,455.0	1,576.0	1,688.0	1,815.0
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
215.0	215.0	231.0	243.0	262.0	283.0	297.0	325.0	355.6	389.2	425.9
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
8,926.0	9,182.0	9,320.0	9,517.0	9,825.0	10,236.0	10,849.0	11,423.0	12,027.4	12,663.7	13,333.7
6.9	7.2	7.0	6.8	6.5	6.3	6.2	6.1	5.9	5.8	5.6
16,237.0	16,056.0	16,746.0	17,627.0	19,194.0	20,660.0	22,263.0	23,827.0	28,720.0	30,522.1	34,092.4
12.5	12.6	12.6	12.6	12.7	12.7	12.7	12.6	14.2	14.0	14.3
129,590.0	127,470.0	132,650.0	139,540.0	151,446.0	162,930.0	175,496.4	188,436.5	202,464.9	217,993.4	237,875.0
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Average Annual Growth 1990 - 2000

6.26%

Advertising Expenditures (Millions of Dollars): 1935 to 2000

Forecasts into Future

Newspapers
percent of total advertising

Magazines
percent of total advertising

Direct Mail
percent of total advertising

Television - Broadcast
percent of total advertising

Television - Cable
percent of total advertising

Television - Other
percent of total advertising

Television - Total
percent of total advertising

Forecasts of Internet Advertising Share and Revenues

		2001	2002	2003	2004	2005
Internet	Forecasted Expenditures	8775.4	9398.5	10443.9	11841.8	13165.8
percent of total advertising	Forecasted Share	3.63%	3.70%	3.90%	4.19%	4.42%

Radio
percent of total advertising

Business Publications
percent of total advertising

Outdoor
percent of total advertising

Farm
percent of total advertising

Yellow Pages
percent of total advertising

Miscellaneous
percent of total advertising

Forecasts of Total Advertising Expenditures

		2001	2002	2003	2004	2005
Total		241443.1	254214.3	268121.2	282325.9	298111.6
percent of total advertising	Growth Rate of Total Advertising (1.5 percent in 2001. At the rate of consumption thereafter)	1.50%	5.29%	5.47%	5.30%	5.59%