

Key regression equations

Domestic Average Use equation for Newfoundland Power Service Territory

Dependent Variable: NPAVDUSE
 Method: Least Squares
 Date: 01/18/10 Time: 15:31
 Sample: 1969 2008
 Included observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DDAY*NPAEDCUST/NPTOTDCUST	3.072308	0.215545	14.25365	0
NPAEDCUST/NPTOTDCUST	7963.467	1152.535	6.90952	0
AAEHTMPAT(-1)	-524.7547	37.75511	-13.89891	0
PDI2002\$*1E6/NPTOTDCUST	0.064911	0.011443	5.672484	0
TECHCGE81	-35.36781	7.031815	-5.029684	0
POPULATION	0.008005	0.001321	6.058892	0
DUM82	-617.9116	152.1904	-4.060121	0.0003
R-squared	0.998061	Mean dependent var		12552.88
Adjusted R-squared	0.997709	S.D. dependent var		3055.276
S.E. of regression	146.2543	Akaike info criterion		12.9662
Sum squared resid	705880.9	Schwarz criterion		13.26175
Log likelihood	-252.324	Durbin-Watson stat		2.139303

Newfoundland Power Domestic\Residential Customer Additions equation

Dependent Variable: NEWNPDCUST
 Method: Least Squares
 Date: 01/18/10 Time: 15:32
 Sample: 1969 2008
 Included observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2029.571	1190.041	-1.705462	0.0972
HOUSESTARTS+HCOMPETIONS	0.480831	0.04219	11.39693	0
PI2002\$*1E6/NPTOTDCUST	0.037441	0.019528	1.917368	0.0636
DUM72	3802.905	361.0426	10.53312	0
DUM76	-1768.742	407.9516	-4.335668	0.0001
DUM95R	-364.1837	146.6211	-2.483842	0.0181
R-squared	0.934058	Mean dependent var		3034.7
Adjusted R-squared	0.92436	S.D. dependent var		1241.35
S.E. of regression	341.4044	Akaike info criterion		14.64149
Sum squared resid	3962937	Schwarz criterion		14.89483
Log likelihood	-286.8299	F-statistic		96.32043
Durbin-Watson stat	1.714483	Prob(F-statistic)		0

Penetration rate of Electric Heat in New Domestic Customers where
pratelgt=log(penrate/(1-penrate))

Dependent Variable: PRATELGT
Method: Least Squares
Date: 02/10/09 Time: 16:10
Sample: 1974 2008
Included observations: 35

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.803393	0.342256	2.34735	0.0259
AAEHTMPAT(-1)	-0.41036	0.06251	-6.564664	0
(FOILPAT+FOILPAT(-2))/FUREFF(-1)	0.016906	0.002041	8.284867	0
RSPDUM	0.862048	0.156946	5.492639	0
HSTARTURBR	1.014481	0.47313	2.144189	0.0405
DUM9899	-0.461892	0.134554	-3.432757	0.0018
R-squared	0.884752	Mean dependent var		0.941518
Adjusted R-squared	0.864881	S.D. dependent var		0.445526
S.E. of regression	0.163769	Akaike info criterion		-0.62592
Sum squared resid	0.777787	Schwarz criterion		-0.35929
Log likelihood	16.95355	F-statistic		44.52605
Durbin-Watson stat	1.788356	Prob(F-statistic)		0

Conversion rate of non-electric to electric heat in existing Domestic Customers where
cratelgt=log(convrate/(1-convrate))

Dependent Variable: CRATELGT
Method: Least Squares
Date: 10/08/09 Time: 16:13
Sample (adjusted): 1968 2008
Included observations: 41 after adjustments
Convergence achieved after 7 iterations
Backcast: 1967

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DOMPAT(-1)/.36/(FOILPAT/3.868/FUREFF	-2.340087	0.116592	-20.07078	0
NPAEDCUST/NPTOTDCUST	-2.650558	0.560901	-4.725539	0
DUM97	-1.082214	0.388996	-2.782072	0.0085
DUM2000R	-0.804003	0.296828	-2.708653	0.0103
MA(1)	0.543954	0.1366	3.982103	0.0003
R-squared	0.789111	Mean dependent var		-5.13592
Adjusted R-squared	0.765679	S.D. dependent var		0.930113
S.E. of regression	0.450237	Akaike info criterion		1.355763
Sum squared resid	7.297674	Schwarz criterion		1.564735
Log likelihood	-22.79314	Durbin-Watson stat		1.807324
Inverted MA Roots	-0.54			

Newfoundland Power electric heat general service Load

Dependent Variable: AEGSS
Method: Least Squares
Date: 01/18/10 Time: 10:19
Sample: 1969 2008
Included observations: 40

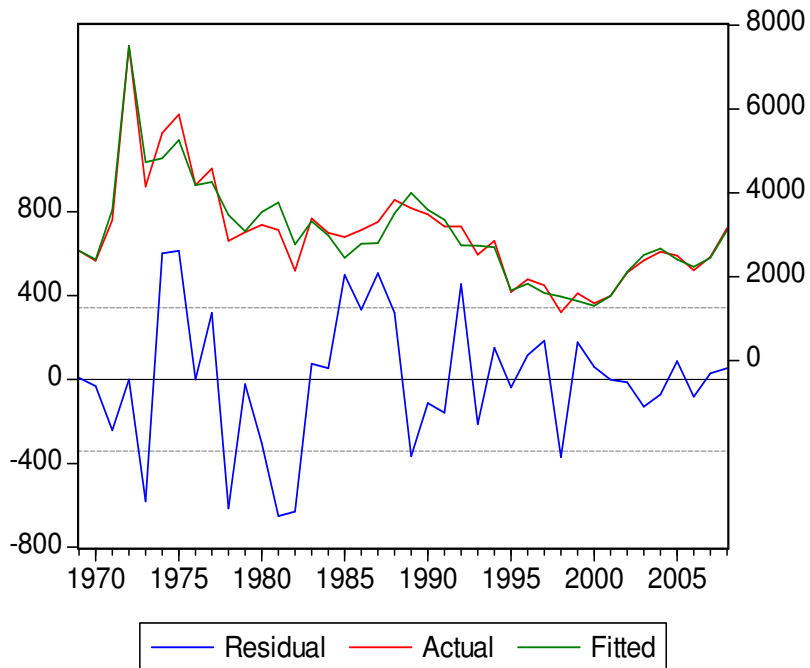
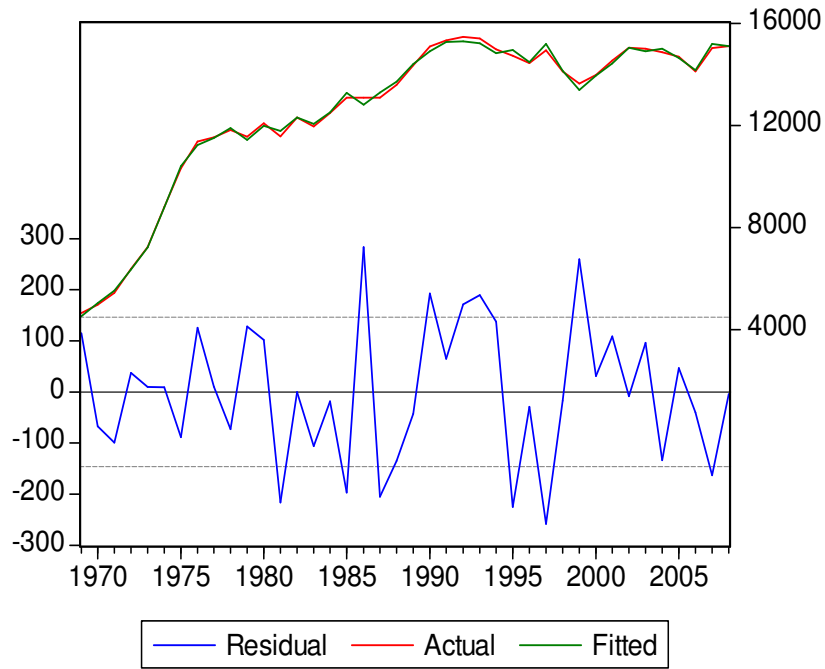
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-400.4815	40.44017	-9.903061	0
GDPADJ2002\$	0.021163	0.006055	3.495352	0.0014
COMINVSUM(-1)-.02*COMINVSUM(-2)	0.084515	0.004969	17.00718	0
DDAY	0.030751	0.006654	4.621285	0.0001
FOILPBT/FUREFF	0.639004	0.159186	4.014189	0.0003
DUM76R	39.24521	7.915957	4.957735	0
DUM96	31.57073	10.64666	2.965319	0.0057
TECHCGE95	-10.51975	0.974917	-10.7904	0
R-squared	0.999163	Mean dependent var		673.17
Adjusted R-squared	0.998979	S.D. dependent var		302.8617
S.E. of regression	9.675316	Akaike info criterion		7.553889
Sum squared resid	2995.576	Schwarz criterion		7.891665
Log likelihood	-143.0778	F-statistic		5454.579
Durbin-Watson stat	1.773338	Prob(F-statistic)		0

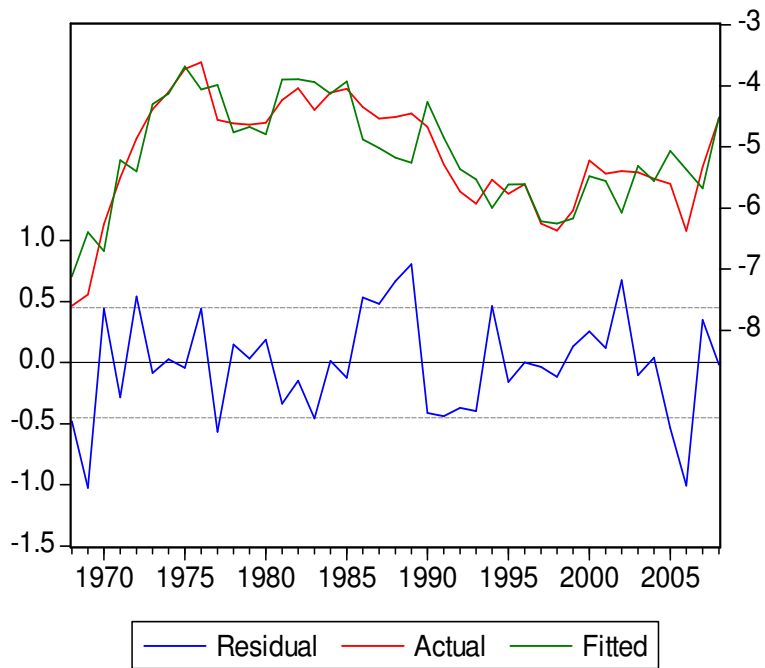
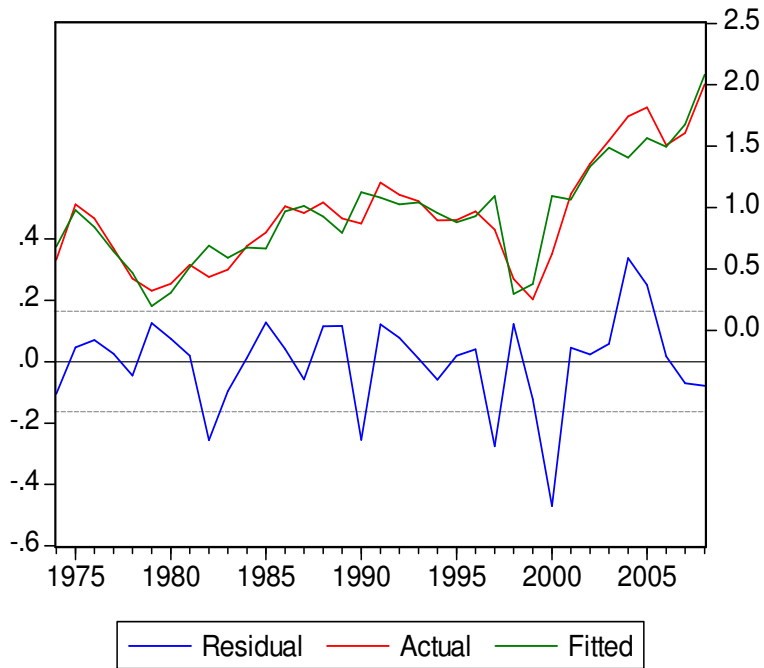
Newfoundland Power winter peak demand equation (MW)

Dependent Variable: NPWPEAK
Method: Least Squares
Date: 10/19/09 Time: 14:03
Sample: 1968 2008
Included observations: 41

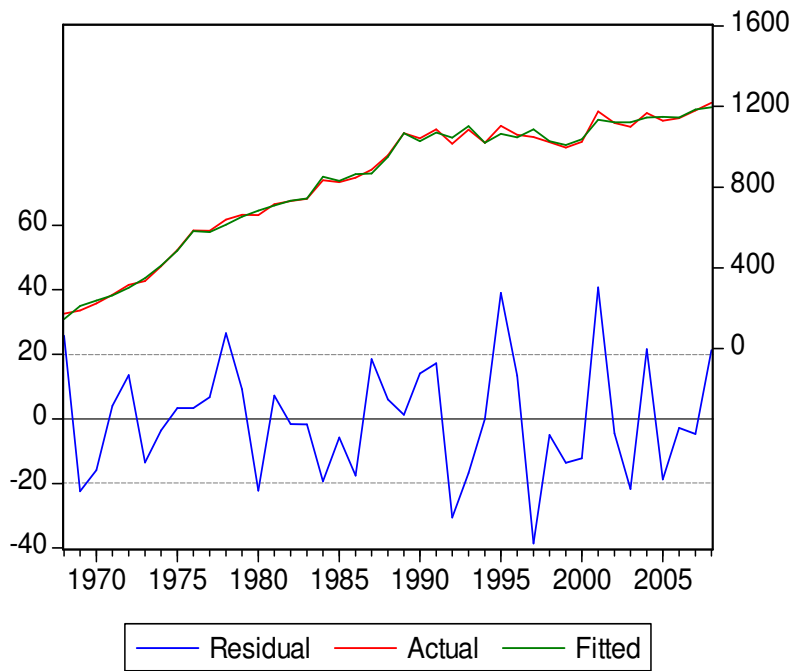
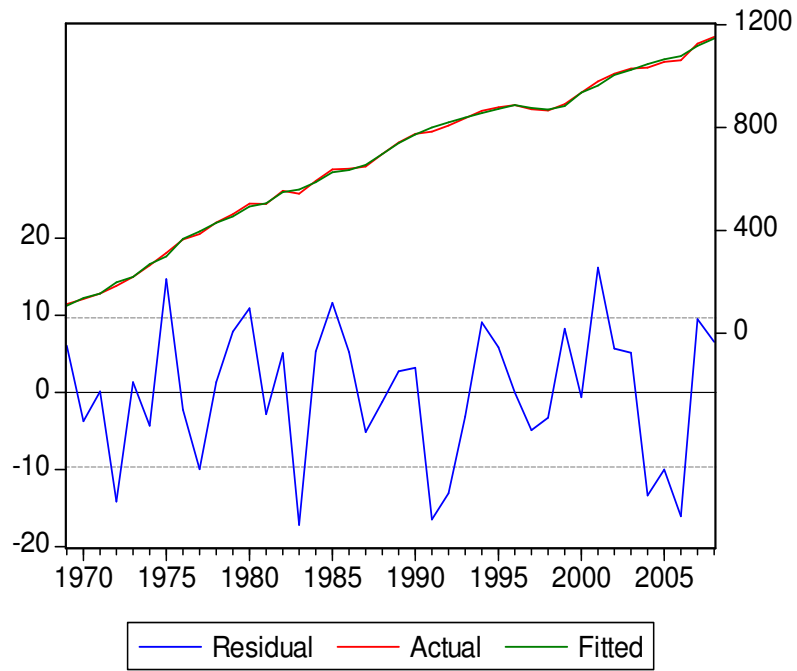
Variable	Coefficient	Std. Error	t-Statistic	Prob.
NPRDCUST	0.001524	0.000479	3.179264	0.0032
NPAEDCUST	0.006727	0.001336	5.034643	0
WCHILLWP_T8_98_04^2	0.157677	0.018389	8.574551	0
AAEHTMPAT(-1)	-18.6309	3.909436	-4.765622	0
NPTOTGSWA(-1)	0.234852	0.076731	3.06071	0.0044
TECHCGE90	-8.347	1.880654	-4.438351	0.0001
NST	-11.25104	11.08865	-1.014645	0.3177
DECPEAK	30.44149	8.079799	3.767605	0.0006
R-squared	0.996762	Mean dependent var		826.5407
Adjusted R-squared	0.996075	S.D. dependent var		317.1942
S.E. of regression	19.87198	Akaike info criterion		8.989678
Sum squared resid	13031.55	Schwarz criterion		9.324033
Log likelihood	-176.2884	Durbin-Watson stat		2.077711

KWh/year





AEGSS Load



	DDAY	NPAVDUSE	NPAEDCUST	NPRDCUST	NPTOTDCUST	AAEHTMPAT	PDI2002\$	PI2002\$	POPULATION	TECHCGE81	NEWNPDCUST	HCOMPETIONS	HOUSESTARTS	FOILPAT	FOILPBT	FUREFF	HSTARTURBR	DOMPAT	GDPADJ2002\$	COMINVSUM	PENRATE1	PRATELGT	CONVRATE1	CRATELGT	AEGSS	NPWPEAK
1967	4900	3930	1200	76663		8.8	3806.5	4154.9	507411	0		1960	2767	26.82	26.82	0.6	0.485363215	12.11	5210	2379.2					39.4	156.3
1968	5016.6	4375	2168	80648	82816	6.61	3888.8	4317.3	514529	0	4953	3079	2933	25.58	25.58	0.6	0.377429247	9.97	5673	2591.1	0.08	-2.44235	0.00050	-7.600402287	79.5	172.9
1969	4577.1	4650	2712	82726	85438	6.43	4106.9	4625.8	522663	0	2622	2935	2507	24.87	24.87	0.6	0.359393686	9.73	5923	2708.1	0.09	-2.31363	0.00060	-7.417980675	113.1	188.8
1970	4721.3	4978	3887	83926	87819	6.32	4351.9	4957.6	525714	0	2381	2207	2636	24.74	24.74	0.61	0.306145668	9.35	6725	2842	0.109	-2.101	0.00190	-6.263999569	133.7	223.7
1971	4702.1	5435	5069	86098	91171	6.24	4712.7	5397.1	530854	0	3352	3429	3658	27	27	0.61	0.381355941	9.03	6925	3186.8	0.218	-1.27736	0.00406	-5.501736846	154.7	267.5
1972	5396.1	6393	8064	90598	98667	5.87	5029.5	5788.9	539124	0	7496	3432	3901	27.54	27.54	0.61	0.448090225	8.13	6606	3442.7	0.27	-0.99462	0.00770	-4.858805158	184.5	316.1
1973	4840	7225	11161	91650	102818	5.36	5464.5	6277.8	545561	0	4151	4478	4831	28.94	28.94	0.61	0.453322291	7.21	7293	3740.8	0.41	-0.36397	0.01230	-4.385779779	219.9	336.3
1974	5259	8797	16711	91530	108241	4.93	5797.8	6802	549604	0	5423	4446	4911	30.59	30.59	0.62	0.458562404	6.44	7826	4098.1	0.64	0.575364	0.01630	-4.100155849	264.4	408.4
1975	5163.6	10311	23842	90271	114113	4.91	6247.2	7305.9	556496	0	5872	4831	5342	31.9	31.9	0.62	0.532572091	6.57	7896	4411.3	0.736	1.025281	0.02350	-3.726974364	313	488.2
1976	4913.4	11361	29643	88650	118293	5.56	6433.1	7647	562639	0	4180	5850	5709	31.36	31.36	0.64	0.356629878	7.29	8496	4710.1	0.713	0.909999	0.02620	-3.615446525	364.6	585.4
1977	4861.8	11525	34015	88855	122870	5.98	6751.7	7996.5	565348	0	4577	4292	3719	33.55	33.55	0.64	0.385318637	7.75	8666	5047.7	0.661	0.667754	0.01040	-4.555495012	385.8	584.2
1978	5116.7	11819	36832	88889	125721	6.7	6871.2	8077.1	567639	0	2851	3561	2865	34.96	34.96	0.66	0.36125654	8.55	8529	5361.8	0.604	0.42216	0.00980	-4.615524545	430.4	639.9
1979	4607.3	11561	39673	89107	128780	6.96	7085.2	8298.8	570075	0	3059	2611	2999	36.07	36.07	0.66	0.354784936	8.99	9212	5671.9	0.58	0.322773	0.00960	-4.636345755	462.8	664.1
1980	5107.9	12080	42698	89322	132020	6.94	6904.1	8064	572759	0	3240	2986	3848	38.87	38.87	0.68	0.461278588	8.64	9014	5876.4	0.594	0.380526	0.00990	-4.605271196	504.3	662.7
1981	4429.3	11569	46139	88993	135132	6.66	7269.3	8510.4	575302	1	3112	3936	3210	47.7	47.7	0.68	0.468535811	8.3	9365	6092.2	0.63	0.532217	0.01430	-4.233092517	502.2	716.2
1982	5094.8	12306	49074	88202	137276	7.65	7304.3	8577.8	573795	2	2144	2331	2793	52.87	52.87	0.7	0.334049404	9.02	9458	6296	0.607	0.434719	0.01730	-4.039597359	553.9	731.8
1983	4613.4	11953	52484	88184	140668	7.8	7117	8419.9	579164	3	3392	3176	3281	55.32	55.32	0.7	0.431270957	9.01	9755	6496.1	0.621	0.493795	0.01220	-4.394044316	542.2	742.6
1984	4800.2	12485	56119	87588	143707	8.12	7141.1	8441.7	580065	4	3039	3134	2720	57.36	57.36	0.72	0.401838243	9.42	10024	6722.5	0.665	0.685657	0.01610	-4.112704957	593.1	833.8
1985	5256.2	13076	59833	86822	146655	9.25	7310.8	8677.5	579275	5	2948	1852	2854	59.73	59.73	0.72	0.487736523	10.41	10161	6978.8	0.689	0.795448	0.01710	-4.051428877	637.2	825.6
1986	5081.9	13091	63465	86306	149771	8.73	7545.1	9090.1	576306	6	3116	2400	2883	52.49	52.49	0.74	0.512313545	9.92	10168	7278.8	0.733	1.009897	0.01280	-4.345427508	639.2	847.8
1987	4901.5	13088	67026	86049	153075	8.44	8102.9	9765	575242	7	3304	2390	2682	44.51	44.51	0.74	0.539895594	9.61	10517	7696.3	0.722	0.954404	0.01060	-4.536244727	648.7	886
1988	4799.9	13584	71016	85891	156907	8.29	8579.6	10366	574982	8	3832	3220	3168	42.76	42.76	0.75	0.539772749	9.39	11172	8038.7	0.739	1.040778	0.01090	-4.508032639	696.2	957.3
1989	4993.5	14354	74668	85869	160537	7.74	8930.4	10752	576551	9	3630	3783	3536	40.35	40.35	0.75	0.608597279	8.77	11648	8342.8	0.713	0.909999	0.01150	-4.453841605	742.3	1068.7
1990	5001.3	15089	77880	86139	164019	7.66	9128.3	11216.4	577368	10	3482	3127	3245	48.09	48.09	0.75	0.580585539	8.72	11662	8621.8	0.705	0.871222	0.00927	-4.671658666	775	1041.4
1991	5205.9	15331	80608	86609	167217	8.12	8979.9	11052.1	579644	11	3198	3219	2836	49.8	46.54	0.76	0.519393504	9.35	11715	8882.2	0.769	1.202673	0.00505	-5.283304241	784	1087.7
1992	5344	15468	83023	87395	170418	8.15	9085.6	11171.2	580109	12	3201	2556	2271	46.6	43.55	0.76	0.578599751	9.58	11541	9136.1	0.751	1.103953	0.00323	-5.732037914	807	1014.9
1993	5243	15402	85260	88261	172942	8.06	9162.6	11222.6	579977	13	2524	2457	2405	46.1	43.09	0.77	0.578378379	9.52	11635	9350.7	0.741	1.051173	0.00266	-5.926765612	836	1085.873
1994	4990	14974	87495	89385	175797	7.99	9123	11315.5	574466	14	2855	2590	2243	41.31	38.61	0.77	0.657155573	9.56	12137	9600.9	0.71	0.895384	0.00394	-5.532626773	865	1019.266
1995	5006	14732	89731	88000	177431	7.88	9110.1	11382	567397	15	1634	1749	1712	40.9	38.22	0.77	0.575934589	9.42	12411	9760.2	0.711	0.900246	0.00311	-5.770017707	878	1104.2
1996	4704	14440	91967	87408	179375	7.77	8835.2	11031	559698	16	1944	1958	2034	44.33	41.43	0.78	0.60865289	9.24	11835	9939.1	0.725	0.969401	0.00365	-5.609371434	887	1060.397
1997	5107	14934	94785	86383	181168	8.23	8612.1	10794.1	550911	17	1793	1988	1696	48.33	43.37	0.78	0.674499989	9.63	11955	10196.5	0.694	0.818887	0.00192	-6.253508247	871.4	1049.043
1998	4601	14114	96106	86218	182324	8.36	8753.5	11069.2	539843	18	1156	1974	1450	39.54	34.38	0.79	0.6421	9.8	12208	10491.8	0.603	0.417981	0.00171	-6.369550445	866	1022.83
1999	4226	13641	96747	87174	183921	8.3	8931.8	11355	533329	19	1597	1754	1371	41.3	35.92	0.79	0.675	9.88	12663	10904.7	0.563	0.253346	0.00238	-6.038271955	890.9	995.743
2000	4524	13975	98405	86882	185287	8.12	9047.6	11513.5	527966	20	1366	1398	1459	59.49	51.73	0.8	0.705	9.64	13035	11285.5	0.651	0.623438	0.00536	-5.223416888	935.2	1025.481
2001	4677	14537	100483	86345	186828	7.96	9330.6	11848.5	522033	21	1541	1458	1788	56.25	48.91	0.805	0.66	9.39	13235	11714.2	0.752	1.109308	0.00433	-5.437848335	979.4	1175.948
2002	4934	15033	103070	85855	188925	7.82	9381	11927	519531	22	2097	2034	2419	49.19	42.78	0.81	0.642	9.18	13817	12039.7	0.795	1.355332	0.00451	-5.396937925	1009.1	1118.263
2003	4711	15000	106137	85177	191314	7.89	9497.6	12085.5	518520	23	2389	2606	2692	55.26	48.05	0.815	0.692	9.11	14144	12329.8	0.824	1.543687	0.00443	-5.414915853	1028.8	1099.463
2004	4690	14874	109553	84359	193912	8.34	9603.1	12266.2	517447	24	2598	2735	2870	58.69	51.03	0.82	0.729	9.49	14525	12608.8	0.851	1.742466	0.00400	-5.517452896	1033.3	1167.255
2005	4561	14689	112693	83719	196412	8.79	9612.5	12313.2	514363	25	2500	2615	2498	71.21	61.92	0.825	0.705	9.92	14617	12899	0.86	1.81529	0.00367	-5.603886866	1055.4	1130.873
2006	4288.7	14116	115557	83011	198568	9.08	10098.6	12732.4	510313	26	2156	2407	2234	75.85	66.15	0.83	0.668	10.25	14783	13209.6	0.819	1.509587	0.00170	-6.375425581	1061	1142.268
2007	4825.4	15029	118770	82275	201045	9.02	10512.2	13303.3	506530	27	2477	2267	2649	78.02	68.44	0.835	0.689	10.18	15095	13524.9	0.833	1.60704	0.00484	-5.325988808	1126.3	1180.47
2008	4586.3	15096	122928	81276	204204	9.23	10990.4	13684.2	506441	28	3159	2959	3261	93.24	82.51	0.84	0.684	10.16	15557	13881	0.881	2.001934	0.01065	-4.53148827	1151.8	1218.794
2009	4574	15352.79	125847.2	81386.42	207233.7	9.121027	11344.4</																			