

Results are obtained with  $h_0^P$  estimated

NO CALIBRATION, $h_0^Q$ IS LAST MLEP, THEN 1 WEEK UPDATED UNDER Q WITH MLE P PARAMS									
$\theta$	2010	2011	2012	2013	2014	2015	2016	2017	2018
$\omega$	$2.9373e-07$	$8.3428e-06$	$2.0480e-09$	$1.4603e-06$	$1.9938e-06$	$4.7113e-07$	$6.9592e-07$	$3.5608e-07$	$2.8351e-07$
<b>std</b>	$(1.5899e-06)$	$(2.7177e-05)$	$(4.0523e-09)$	$(4.9823e-06)$	$(6.7867e-06)$	$(2.5578e-06)$	$(3.0411e-06)$	$(2.0030e-06)$	$(1.8911e-06)$
<b>median</b>	$4.4080e-10$	$2.1679e-09$	$1.1257e-09$	$1.5347e-09$	$1.3127e-09$	$1.3856e-09$	$7.3148e-10$	$2.7972e-10$	$4.7562e-10$
$\alpha$	$2.6320e-05$	$2.2808e-05$	$1.9757e-05$	$1.5988e-05$	$1.4048e-05$	$1.3678e-05$	$1.3866e-05$	$9.2340e-06$	$1.4852e-05$
<b>std</b>	$(2.1620e-05)$	$(2.2449e-05)$	$(1.7918e-05)$	$(1.2247e-05)$	$(9.6474e-06)$	$(6.8892e-06)$	$(8.7406e-06)$	$(4.9557e-06)$	$(1.2108e-05)$
<b>median</b>	$2.1958e-05$	$2.0325e-05$	$1.4096e-05$	$1.5884e-05$	$1.3321e-05$	$1.2722e-05$	$1.2912e-05$	$9.1517e-06$	$1.4611e-05$
$\beta$	0.4546	0.3164	0.4540	0.3331	0.1703	0.1908	0.2374	0.1474	0.2396
<b>std</b>	$(0.3294)$	$(0.3221)$	$(0.3672)$	$(0.3768)$	$(0.2815)$	$(0.2349)$	$(0.3108)$	$(0.2931)$	$(0.3291)$
<b>median</b>	0.5280	0.3131	0.6192	0.0023	0.0002	0.0090	0.0007	0.0001	0.0002
$\gamma^*$	153.6094	256.7574	174.3906	247.3834	218.9031	224.0573	257.7868	275.5854	169.5225
<b>std</b>	$(151.3336)$	$(289.5641)$	$(123.8042)$	$(267.6261)$	$(206.5331)$	$(48.8853)$	$(247.1550)$	$(187.7364)$	$(122.1721)$
<b>median</b>	115.7838	148.3374	137.7486	166.2098	186.2643	226.1581	205.5256	237.1314	155.2827
$h_0^Q$	$1.2758e-04$	$1.5892e-04$	$8.6478e-05$	$6.1464e-05$	$6.4455e-05$	0.0001	$9.9527e-05$	$4.0044e-05$	$8.9444e-05$
<b>std</b>	$(8.7878e-05)$	$(1.0205e-04)$	$(4.1668e-05)$	$(2.9186e-05)$	$(5.3415e-05)$	$(7.7845e-05)$	$(7.9210e-05)$	$(2.8491e-05)$	$(9.3660e-05)$
<b>median</b>	$1.1004e-04$	$1.2145e-04$	$8.3117e-05$	$5.4450e-05$	$5.1302e-05$	$9.1573e-05$	$7.2113e-05$	$3.3573e-05$	$4.6773e-05$
<b>persistence</b>	0.8116	0.8243	0.7755	0.7028	0.6446	0.7948	0.7570	0.6523	0.5985
<b>std</b>	$(0.1867)$	$(0.1406)$	$(0.2404)$	$(0.2369)$	$(0.2471)$	$(0.0995)$	$(0.1568)$	$(0.2196)$	$(0.3022)$
<b>median</b>	0.8756	0.8230	0.8761	0.7046	0.6817	0.7949	0.7223	0.6810	0.6549
<b>MSE</b>	1.5491	6.8553	3.2567	5.2975	10.0940	11.6616	15.7569	27.8216	24.1141
<b>median MSE</b>	1.2303	2.7395	2.1837	3.3961	7.1326	7.3612	10.5323	24.9264	15.2637
<b>IVRMSE</b>	0.0724	0.1170	0.0935	0.0994	0.1139	0.1477	0.1514	0.1458	0.1347
<b>MAPE</b>	0.0867	0.1278	0.1387	0.1692	0.2189	0.2828	0.2646	0.3181	0.2466
<b>OptLL</b>	203.4111	195.9653	239.5589	317.2542	312.5316	374.4879	458.7379	517.9403	520.1464

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$h_0^Q$ IS UNC UNDER P, UPDATED UNDER Q 1 YEAR, THEN 1 WEEK AGAIN WITH MLE P PARAMETERS ESTIMATED FROM YEAR -1 TO -11									
$\theta$	2010	2011	2012	2013	2014	2015	2016	2017	2018
$\omega$	$8.5027e-08$	$9.2714e-06$	$1.9243e-07$	$2.2129e-06$	$1.9388e-06$	$4.1610e-07$	$5.9987e-07$	$3.5299e-07$	$5.5730e-07$
std	$(4.4877e-07)$	$(2.7968e-05)$	$(1.0856e-06)$	$(6.4184e-06)$	$(6.6239e-06)$	$(2.4952e-06)$	$(2.9189e-06)$	$(2.0142e-06)$	$(2.7148e-06)$
median	$4.8556e-10$	$1.1932e-09$	$8.3045e-10$	$1.6296e-09$	$1.3144e-09$	$1.6699e-09$	$8.8906e-10$	$3.4979e-10$	$4.8666e-10$
$\alpha$	$2.5202e-05$	$2.1003e-05$	$1.8176e-05$	$1.3908e-05$	$1.2917e-05$	$1.3883e-05$	$1.3858e-05$	$8.2692e-06$	$1.4618e-05$
std	$(2.2209e-05)$	$(2.0947e-05)$	$(1.6526e-05)$	$(1.1489e-05)$	$(8.8546e-06)$	$(5.9109e-06)$	$(8.0356e-06)$	$(4.8704e-06)$	$(1.0456e-05)$
median	$1.7658e-05$	$1.9181e-05$	$1.2031e-05$	$1.2723e-05$	$1.2246e-05$	$1.3217e-05$	$1.3228e-05$	$8.3302e-06$	$1.3804e-05$
$\beta$	0.4871	0.3363	0.4851	0.3724	0.1836	0.1643	0.2466	0.1768	0.1900
std	(0.3228)	(0.3212)	(0.3449)	(0.3801)	(0.2898)	(0.2274)	(0.3159)	(0.3270)	(0.2948)
median	0.5700	0.3823	0.5857	0.3025	0.0002	0.0007	0.0018	0.0001	0.0003
$\gamma^*$	150.8652	213.9027	175.7178	268.5595	247.9366	221.9130	209.9787	301.8938	169.2332
std	(138.0093)	(168.6915)	(142.7164)	(295.7190)	(244.4780)	(41.5011)	(73.9368)	(189.9283)	(123.1864)
median	112.0207	155.9251	147.8898	169.4020	202.0041	228.8470	208.6253	261.8796	152.3871
$h_0^Q$	$1.2418e-04$	$1.6088e-04$	$8.5630e-05$	$6.3566e-05$	$6.4061e-05$	0.0001	$9.4187e-05$	$4.1913e-05$	$9.6533e-05$
std	$(8.5425e-05)$	$(1.0131e-04)$	$(4.1523e-05)$	$(3.0167e-05)$	$(5.1826e-05)$	$(6.6354e-05)$	$(7.5706e-05)$	$(2.8009e-05)$	$(9.7705e-05)$
median	$1.0459e-04$	$1.3888e-04$	$7.7931e-05$	$5.2739e-05$	$5.1569e-05$	$8.9384e-05$	$6.9752e-05$	$3.5643e-05$	$5.5167e-05$
persistence	0.8221	0.8357	0.7908	0.7215	0.6608	0.7899	0.7567	0.6880	0.5949
std	(0.1870)	(0.1267)	(0.2327)	(0.2405)	(0.2579)	(0.0938)	(0.1574)	(0.2170)	(0.2846)
median	0.8797	0.8444	0.8985	0.7596	0.7232	0.7879	0.7342	0.7017	0.6653
MSE	1.1557	4.6458	2.3594	4.3135	10.8642	10.0991	14.4040	28.2032	21.5636
median MSE	0.9257	2.0944	1.7466	1.9346	6.4752	6.8600	10.8290	23.3132	14.2879
IVRMSE	0.0626	0.0922	0.0849	0.0894	0.1240	0.1354	0.1455	0.1520	0.1281
MAPE	0.0725	0.0905	0.1162	0.1317	0.2377	0.2454	0.2479	0.3462	0.2246
OptLL	212.4966	211.5802	247.7956	334.4262	309.5683	386.4466	465.3204	508.0344	534.5694

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ONLY $h_0^Q$ IS CALIBRATED, THEN 1 WEEK UPDATED UNDER Q WITH MLEP PARAMS									
$\theta$	2010	2011	2012	2013	2014	2015	2016	2017	2018
$\omega$	4.2761e-09	3.2992e-07	3.3621e-08	3.8491e-07	1.2742e-07	4.4951e-08	2.5272e-08	3.9321e-08	3.5745e-08
<b>std</b>	(1.6791e-08)	(1.5604e-06)	(1.6575e-07)	(1.3052e-06)	(4.5656e-07)	(2.0855e-07)	(1.4770e-07)	(1.7009e-07)	(2.2435e-07)
<b>median</b>	5.6987e-10	1.1448e-09	6.6046e-10	1.3899e-09	7.7997e-10	1.5014e-09	9.8128e-10	4.0373e-10	6.4399e-10
$\alpha$	1.8271e-05	1.6271e-05	9.0113e-06	6.1070e-06	7.6345e-06	7.2374e-06	5.1346e-06	2.3951e-06	1.2001e-05
<b>std</b>	(1.9462e-05)	(2.1985e-05)	(1.2043e-05)	(7.9519e-06)	(9.6825e-06)	(7.2754e-06)	(5.8307e-06)	(3.0938e-06)	(1.6017e-05)
<b>median</b>	1.0250e-05	7.6580e-06	4.5292e-06	3.1281e-06	3.2390e-06	4.3350e-06	2.9817e-06	1.4483e-06	2.7054e-06
$\beta$	0.6224	0.5560	0.7081	0.7258	0.6010	0.5520	0.6269	0.7263	0.4570
<b>std</b>	(0.2827)	(0.2971)	(0.2368)	(0.2478)	(0.3170)	(0.2466)	(0.2257)	(0.2586)	(0.3938)
<b>median</b>	0.7270	0.6567	0.7970	0.8149	0.7403	0.6572	0.6945	0.8054	0.5535
$\gamma^*$	133.2216	191.7168	181.9972	254.4028	268.1967	280.6426	298.3299	331.9039	208.9947
<b>std</b>	(51.0662)	(93.1766)	(80.1860)	(194.7410)	(238.2579)	(175.7277)	(157.3293)	(112.0556)	(137.7996)
<b>median</b>	128.3648	175.8916	174.2587	184.1932	220.4021	257.4585	297.1472	333.3806	190.6912
$h_0^Q$	4.7767e-04	2.1653e-04	8.5563e-05	2.6095e-04	2.4089e-04	0.0001	1.6159e-04	3.4061e-05	1.0676e-04
<b>std</b>	(2.4107e-03)	(2.0426e-04)	(5.6283e-05)	(1.4411e-03)	(1.0002e-03)	(1.0574e-04)	(5.2330e-04)	(3.0939e-05)	(1.4845e-04)
<b>median</b>	1.0057e-04	1.2388e-04	6.6106e-05	4.7964e-05	3.7544e-05	6.7174e-05	5.4301e-05	2.1801e-05	3.5323e-05
<b>persistence</b>	0.8690	0.9140	0.8979	0.9104	0.8538	0.9184	0.9374	0.9523	0.7164
<b>std</b>	(0.1807)	(0.0899)	(0.1795)	(0.1125)	(0.2138)	(0.0760)	(0.0690)	(0.0709)	(0.3333)
<b>median</b>	0.9423	0.9529	0.9625	0.9574	0.9396	0.9499	0.9650	0.9764	0.8877
<b>MSE</b>	59.5684	21.5457	9.0664	403.7466	451.1287	49.7411	812.9444	55.9945	68.3024
<b>median MSE</b>	1.2333	2.3206	2.4374	2.2888	4.0268	8.1603	12.5478	7.7920	15.7990
<b>IVRMSE</b>	0.2189	0.2208	0.1539	0.2841	0.3760	0.2757	0.4036	0.2322	0.2187
<b>MAPE</b>	0.7236	0.3772	0.3341	2.4033	1.8808	0.8533	1.7965	1.0300	0.4708
<b>OptLL</b>	175.9604	175.4595	211.0642	283.2932	256.0749	309.9453	380.5977	466.0165	462.1938