

Results are obtained with h_0^P estimated

CALIBRATED PARAMETERS ON WEDNESDAYS USING MSE, $h_0^Q = h_t^P$									
θ	2010	2011	2012	2013	2014	2015	2016	2017	2018
ω	$1.4513e-07$	$1.4176e-05$	$4.7992e-07$	$5.2798e-07$	$4.0969e-07$	$1.0490e-07$	$2.4321e-06$	$1.7537e-06$	$1.5142e-06$
std	$(5.7839e-07)$	$(4.2940e-05)$	$(1.7371e-06)$	$(1.1392e-06)$	$(1.9557e-06)$	$(4.5067e-07)$	$(1.1457e-05)$	$(7.3610e-06)$	$(1.0157e-05)$
ci	$(\pm 1.5942e-07)$	$(\pm 1.1836e-05)$	$(\pm 4.8361e-07)$	$(\pm 3.2041e-07)$	$(\pm 5.3905e-07)$	$(\pm 1.2422e-07)$	$(\pm 3.1579e-06)$	$(\pm 2.0493e-06)$	$(\pm 2.8277e-06)$
median	$1.0775e-09$	$5.1740e-09$	$9.6472e-10$	$5.4959e-10$	$1.7945e-10$	$2.3733e-10$	$6.8372e-10$	$1.4123e-10$	$2.9534e-10$
α	$1.7035e-05$	$1.2346e-05$	$1.0103e-05$	$8.7693e-06$	$8.7046e-06$	$1.0089e-05$	$8.2898e-06$	$4.8282e-06$	$8.5475e-06$
std	$(1.2550e-05)$	$(1.2226e-05)$	$(9.8089e-06)$	$(8.4844e-06)$	$(5.7848e-06)$	$(5.0402e-06)$	$(5.9798e-06)$	$(3.5221e-06)$	$(6.8440e-06)$
ci	$(\pm 3.4593e-06)$	$(\pm 3.3699e-06)$	$(\pm 2.7308e-06)$	$(\pm 2.3863e-06)$	$(\pm 1.5945e-06)$	$(\pm 1.3893e-06)$	$(\pm 1.6482e-06)$	$(\pm 9.8057e-07)$	$(\pm 1.9054e-06)$
median	$1.3647e-05$	$9.6655e-06$	$5.5978e-06$	$4.8816e-06$	$7.3675e-06$	$9.5364e-06$	$6.9899e-06$	$4.3066e-06$	$7.5553e-06$
β	0.4688	0.2756	0.4263	0.3469	0.2271	0.1023	0.2500	0.1683	0.2652
std	(0.2797)	(0.3044)	(0.3174)	(0.3611)	(0.3221)	(0.1558)	(0.2938)	(0.2836)	(0.3220)
ci	(± 0.0771)	(± 0.0839)	(± 0.0884)	(± 0.1016)	(± 0.0888)	(± 0.0429)	(± 0.0810)	(± 0.0790)	(± 0.0897)
median	0.5242	0.0830	0.4428	0.2967	0.0000	0.0000	0.0041	0.0001	0.0604
γ^*	207.2276	363.1600	334.4814	375.3636	339.1462	315.5564	328.8686	445.8713	293.1308
std	(172.8200)	(344.4400)	(292.6007)	(284.4333)	(164.4093)	(130.9452)	(154.4229)	(267.0554)	(350.5551)
ci	(± 47.6351)	(± 94.9394)	(± 81.4605)	(± 79.9982)	(± 45.3168)	(± 36.0930)	(± 42.5642)	(± 74.3487)	(± 97.5952)
median	156.2936	223.1544	236.8887	285.1250	268.2518	283.8629	286.5057	389.7132	265.0480
$h_0^Q = h_t^P$	$1.2843e-04$	$1.5885e-04$	$8.8858e-05$	$6.0313e-05$	$6.5265e-05$	$1.1085e-04$	$9.9075e-05$	$4.0828e-05$	$1.1258e-04$
std	$(8.7675e-05)$	$(1.0228e-04)$	$(4.2482e-05)$	$(3.1009e-05)$	$(3.7863e-05)$	$(6.5832e-05)$	$(7.2668e-05)$	$(2.3485e-05)$	$(8.8642e-05)$
ci	$(\pm 2.4166e-05)$	$(\pm 2.8191e-05)$	$(\pm 1.1827e-05)$	$(\pm 8.7213e-06)$	$(\pm 1.0436e-05)$	$(\pm 1.8145e-05)$	$(\pm 2.0030e-05)$	$(\pm 6.5382e-06)$	$(\pm 2.4678e-05)$
median	$1.1288e-04$	$1.3446e-04$	$8.4289e-05$	$4.8973e-05$	$5.5260e-05$	$9.2823e-05$	$7.8758e-05$	$3.3053e-05$	$9.1614e-05$
MSE	0.6118	2.9140	1.0134	1.2670	2.6656	2.5912	5.3826	10.0873	6.6190
IVRMSE	0.0960	0.1261	0.1339	0.1204	0.1268	0.1256	0.1382	0.1753	0.1393
MAPE	0.1216	0.1311	0.1823	0.1730	0.2130	0.2172	0.2706	0.3992	0.2366
OptLL	194.7567	192.9417	226.8644	309.0478	320.7876	395.9864	470.7001	501.6474	615.4205

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CALIBRATED PARAMETERS ON WEDNESDAYS WRT MSE, $h_0^Q = \frac{\omega_0 + \alpha_0}{1 - \beta_0 - \alpha_0 \gamma_0^2}$, WITH $\omega_0, \alpha_0, \beta_0, \gamma_0^{*2}$ FROM MLE UNDER P AND UPDATED UNDER Q									
θ	2010	2011	2012	2013	2014	2015	2016	2017	2018
ω	1.5697e-07	5.7491e-06	2.1523e-07	2.7628e-07	2.3732e-08	1.6110e-08	2.0066e-07	1.2489e-08	2.2192e-07
std	(5.6788e-07)	(1.6332e-05)	(6.2554e-07)	(7.5402e-07)	(1.1658e-07)	(1.1044e-07)	(1.2615e-06)	(6.3331e-08)	(7.7929e-07)
ci	($\pm 1.5653e-07$)	($\pm 4.5016e-06$)	($\pm 1.7415e-07$)	($\pm 2.1207e-07$)	($\pm 3.2133e-08$)	($\pm 3.0441e-08$)	($\pm 3.4772e-07$)	($\pm 1.7631e-08$)	($\pm 2.1695e-07$)
median	2.4090e-09	5.6395e-09	1.1196e-09	5.4495e-10	1.5386e-10	2.2787e-10	2.9269e-10	8.1035e-11	4.0877e-10
α	1.4628e-05	1.0156e-05	9.7869e-06	7.8367e-06	7.9205e-06	9.5198e-06	8.2525e-06	5.0611e-06	9.1095e-06
std	(1.0156e-05)	(9.5801e-06)	(8.8243e-06)	(7.6776e-06)	(5.5364e-06)	(3.9620e-06)	(5.2317e-06)	(3.5988e-06)	(6.2168e-06)
ci	($\pm 2.7995e-06$)	($\pm 2.6406e-06$)	($\pm 2.4567e-06$)	($\pm 2.1594e-06$)	($\pm 1.5260e-06$)	($\pm 1.0921e-06$)	($\pm 1.4420e-06$)	($\pm 1.0019e-06$)	($\pm 1.7308e-06$)
median	1.2294e-05	8.0906e-06	6.2118e-06	5.0339e-06	7.3727e-06	8.4912e-06	8.3068e-06	4.6738e-06	8.1628e-06
β	0.5256	0.2930	0.4448	0.4003	0.2776	0.1191	0.2523	0.1647	0.1895
std	(0.2334)	(0.3055)	(0.2970)	(0.3662)	(0.3251)	(0.1824)	(0.2875)	(0.2930)	(0.2762)
ci	(± 0.0643)	(± 0.0842)	(± 0.0827)	(± 0.1030)	(± 0.0896)	(± 0.0503)	(± 0.0792)	(± 0.0816)	(± 0.0769)
median	0.5544	0.1561	0.5631	0.4126	0.0787	0.0000	0.0087	0.0000	0.0004
γ^*	206.9885	393.3237	321.9917	420.5704	386.1910	300.0024	317.9679	464.4275	343.7525
std	(168.6065)	(361.2128)	(294.8291)	(320.3050)	(252.4873)	(61.9570)	(103.3799)	(201.6139)	(242.9145)
ci	(± 46.4737)	(± 99.5626)	(± 82.0809)	(± 90.0872)	(± 69.5941)	(± 17.0775)	(± 28.4950)	(± 56.1297)	(± 67.6278)
median	159.3995	245.4392	231.7922	268.0011	280.0996	301.5505	301.4061	413.2763	289.4503
$h_0^Q = h_t^P$	1.2504e-04	1.6094e-04	8.8020e-05	6.3516e-05	6.4968e-05	1.0677e-04	9.4593e-05	4.2065e-05	1.2042e-04
std	(8.4350e-05)	(1.0127e-04)	(3.9993e-05)	(3.0169e-05)	(3.7802e-05)	(5.3934e-05)	(6.6163e-05)	(2.5624e-05)	(9.2499e-05)
ci	($\pm 2.3250e-05$)	($\pm 2.7914e-05$)	($\pm 1.1134e-05$)	($\pm 8.4851e-06$)	($\pm 1.0419e-05$)	($\pm 1.4866e-05$)	($\pm 1.8237e-05$)	($\pm 7.1338e-06$)	($\pm 2.5752e-05$)
median	1.0398e-04	1.3887e-04	7.9893e-05	5.2671e-05	5.4472e-05	8.9209e-05	6.9330e-05	3.6036e-05	1.0226e-04
MSE	0.5696	2.7958	0.9089	1.1220	2.1939	2.3500	4.2735	8.5872	5.6765
IVRMSE	0.0956	0.1252	0.1365	0.1235	0.1280	0.1337	0.1460	0.1724	0.1401
MAPE	0.1199	0.1306	0.1811	0.1706	0.2157	0.2114	0.2289	0.3632	0.2216
OptLL	199.1370	198.2037	232.4967	308.1413	325.3681	406.4867	478.1218	511.1234	629.4424

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CALIBRATED PARAMETERS ON WEDNESDAYS, h_0^Q IS CALIBRATED WITH RESPECT TO MSE									
θ	2010	2011	2012	2013	2014	2015	2016	2017	2018
ω	$1.0488e-07$	$5.8246e-07$	$2.5115e-07$	$1.6648e-07$	$2.3430e-07$	$7.7768e-08$	$1.1626e-07$	$8.2065e-08$	$7.6453e-08$
std	$(4.3237e-07)$	$(9.9623e-07)$	$(5.7761e-07)$	$(4.5215e-07)$	$(4.5167e-07)$	$(2.6235e-07)$	$(2.7833e-07)$	$(3.2339e-07)$	$(3.3182e-07)$
ci	$(\pm 1.1918e-07)$	$(\pm 2.7459e-07)$	$(\pm 1.6081e-07)$	$(\pm 1.2717e-07)$	$(\pm 1.2450e-07)$	$(\pm 7.2313e-08)$	$(\pm 7.6717e-08)$	$(\pm 9.0031e-08)$	$(\pm 9.2380e-08)$
median	$2.2987e-09$	$3.5700e-09$	$2.2122e-09$	$1.4531e-09$	$1.0411e-09$	$7.7909e-10$	$1.1251e-09$	$4.5039e-10$	$1.0650e-09$
α	$8.4165e-06$	$4.4508e-06$	$2.8014e-06$	$2.5121e-06$	$2.5227e-06$	$2.9788e-06$	$2.2257e-06$	$1.3120e-06$	$1.4577e-06$
std	$(6.7016e-06)$	$(2.4687e-06)$	$(1.4378e-06)$	$(1.4269e-06)$	$(2.2280e-06)$	$(1.3795e-06)$	$(9.4056e-07)$	$(7.8262e-07)$	$(7.2948e-07)$
ci	$(\pm 1.8472e-06)$	$(\pm 6.8046e-07)$	$(\pm 4.0029e-07)$	$(\pm 4.0132e-07)$	$(\pm 6.1411e-07)$	$(\pm 3.8023e-07)$	$(\pm 2.5925e-07)$	$(\pm 2.1788e-07)$	$(\pm 2.0309e-07)$
median	$6.5997e-06$	$3.6480e-06$	$2.6366e-06$	$1.9850e-06$	$1.9079e-06$	$2.6174e-06$	$2.0616e-06$	$1.0858e-06$	$1.2525e-06$
β	0.6871	0.5490	0.7000	0.7605	0.6585	0.5583	0.5809	0.6908	0.6496
std	(0.1397)	(0.2245)	(0.1376)	(0.1253)	(0.1859)	(0.1226)	(0.1377)	(0.1482)	(0.1324)
ci	(± 0.0385)	(± 0.0619)	(± 0.0383)	(± 0.0353)	(± 0.0512)	(± 0.0338)	(± 0.0380)	(± 0.0413)	(± 0.0369)
median	0.7084	0.5939	0.7252	0.7904	0.7367	0.5896	0.5806	0.7114	0.6620
γ^*	197.5895	347.0532	349.9407	311.1355	419.7989	397.9111	439.0339	454.7184	502.6705
std	(79.0995)	(210.7790)	(182.3969)	(155.5853)	(230.8533)	(128.9083)	(115.1693)	(207.7471)	(132.3138)
ci	(± 21.8025)	(± 58.0979)	(± 50.7796)	(± 43.7591)	(± 63.6310)	(± 35.5315)	(± 31.7446)	(± 57.8372)	(± 36.8364)
median	176.5536	255.3032	302.3136	257.6042	339.5965	384.7057	405.3039	469.6117	475.7176
h_0^Q	$1.2420e-04$	$1.7303e-04$	$7.7115e-05$	$4.6121e-05$	$4.3171e-05$	0.0001	$6.1981e-05$	$1.7690e-05$	$6.7046e-05$
std	$(7.7985e-05)$	$(1.3864e-04)$	$(3.0317e-05)$	$(2.5813e-05)$	$(3.8513e-05)$	$(4.8647e-05)$	$(4.8685e-05)$	$(1.1101e-05)$	$(5.9643e-05)$
ci	$(\pm 2.1495e-05)$	$(\pm 3.8214e-05)$	$(\pm 8.4403e-06)$	$(\pm 7.2599e-06)$	$(\pm 1.0616e-05)$	$(\pm 1.3409e-05)$	$(\pm 1.3419e-05)$	$(\pm 3.0904e-06)$	$(\pm 1.6605e-05)$
median	$1.0022e-04$	$1.1400e-04$	$6.7420e-05$	$3.8509e-05$	$3.0170e-05$	$5.8680e-05$	$4.0850e-05$	$1.5496e-05$	$4.5133e-05$
MSE	0.3344	0.4992	0.3164	0.1865	0.2756	0.4952	0.5942	0.8425	1.4562
IVRMSE	0.0821	0.0916	0.1231	0.1047	0.1211	0.1351	0.1270	0.1390	0.1318
MAPE	0.1024	0.1053	0.1555	0.1366	0.1616	0.1886	0.1722	0.2196	0.1849
OptLL	207.0992	216.2553	244.4436	345.9152	369.4851	433.9732	544.1547	617.0931	679.5187