

Results are obtained with r average yield over the in-sample period

MULTIPLE OPHIONS CALIBRATION EXERCISE OVER 12 MONTHS, IN-SAMPLE RESULTS										
values	ω	α	β	γ^*	h_0^Q	persistency	OptLL	normOptLL	MSE	IVRMSE
2010										
h0 P	$2.0563e-06$	$8.0177e-07$	0.5324	749.1062	$5.1436e-05$	0.9823	-109.7423	480.3705	12.9677	0.1787
h0 RV	$2.4411e-06$	$9.7581e-07$	0.5342	675.0497	$1.9879e-05$	0.9789	-110.8389	478.1771	13.0614	0.1857
h0 Q	$2.0862e-06$	$8.2241e-07$	0.5365	735.9924	$4.8752e-05$	0.9820	-109.8210	480.2131	12.9483	0.1792
h0 est	$1.7407e-06$	$8.9298e-07$	0.6287	630.2697	$6.7389e-05$	0.9834	-109.4990	480.8569	13.5268	0.1748
2011										
h0 P	$3.4916e-11$	$2.2845e-06$	0.8092	274.6302	$2.2560e-05$	0.9815	-148.3012	458.9666	57.6818	0.2920
h0 RV	$9.4274e-10$	$2.2926e-06$	0.8084	274.6903	$1.9261e-05$	0.9814	-148.4352	458.6985	58.0783	0.2940
h0 Q	$4.2518e-11$	$2.2908e-06$	0.8086	274.6756	$1.9800e-05$	0.9814	-148.4128	458.7434	57.9849	0.2931
h0 est	$8.2419e-11$	$8.8419e-07$	0.7525	523.4833	$8.3350e-05$	0.9948	-141.2718	473.0254	26.9338	0.2388
2012										
h0 P	$5.7114e-07$	$2.2774e-06$	0.8271	254.5621	$1.3242e-04$	0.9746	-134.1031	603.5040	13.7499	0.1623
h0 RV	$8.7471e-10$	$1.1237e-05$	0.6644	140.4601	$3.8907e-05$	0.8861	-138.6627	594.3846	19.9723	0.1754
h0 Q	$7.5305e-07$	$2.1366e-06$	0.8175	270.6912	$1.2247e-04$	0.9740	-134.6270	602.4562	14.4346	0.1645
h0 est	$6.0643e-07$	$2.4113e-06$	0.8216	250.4824	$1.4558e-04$	0.9729	-133.8815	603.9471	13.4393	0.1617
2013										
h0 P	$1.4015e-06$	$1.5803e-06$	0.7320	374.9665	$8.8611e-05$	0.9542	-167.9490	843.7654	6.4586	0.1471
h0 RV	$2.1430e-06$	$8.2890e-06$	0.5933	164.2697	$3.9988e-04$	0.8170	-180.1683	819.3267	11.6842	0.1436
h0 Q	$1.4119e-06$	$1.5939e-06$	0.7314	373.4969	$8.9485e-05$	0.9538	-168.0605	843.5424	6.4801	0.1472
h0 est	$1.0462e-06$	$7.4439e-07$	0.7395	561.7930	$4.5036e-05$	0.9744	-162.3877	854.8879	5.9599	0.1483
2014										
h0 P	$2.9260e-07$	$5.1021e-07$	0.6714	789.4813	$4.1489e-05$	0.9894	-200.2136	880.2277	13.2917	0.1711
h0 RV	$5.3078e-11$	$7.9268e-07$	0.7913	501.5114	$2.5493e-05$	0.9906	-198.0009	884.6531	10.5475	0.1558
h0 Q	$1.0718e-07$	$6.8692e-07$	0.7599	578.3965	$4.1199e-05$	0.9897	-199.6421	881.3706	12.3590	0.1605
h0 est	$2.3781e-12$	$7.4050e-07$	0.7858	527.0728	$6.1788e-09$	0.9915	-199.0232	882.6083	12.6262	0.1631
2015										
h0 P	$7.4112e-10$	$1.0945e-05$	0.3397	213.9872	$1.4647e-04$	0.8409	-262.9162	1015.2267	23.1960	0.1875
h0 RV	$4.8699e-09$	$1.0928e-05$	0.3390	214.2297	$8.1791e-05$	0.8405	-263.8748	1013.3096	23.6808	0.1895
h0 Q	$4.5790e-07$	$2.5102e-06$	0.6799	332.2877	$1.3851e-04$	0.9570	-255.7116	1029.6359	15.5701	0.1671
h0 est	$4.2169e-07$	$2.6494e-06$	0.6789	323.2565	$1.4515e-04$	0.9558	-255.6810	1029.6971	15.3853	0.1671
2016										
h0 P	$1.2837e-06$	$1.3021e-05$	0.2909	184.9408	$1.6505e-04$	0.7363	-349.1399	1241.5531	50.8796	0.2247
h0 RV	$1.2684e-06$	$1.2991e-05$	0.2922	185.1101	$1.9865e-04$	0.7374	-348.7924	1242.2480	50.5710	0.2237
h0 Q	$5.2514e-06$	$1.2690e-05$	0.0000	229.9436	$1.5375e-04$	0.6710	-349.0359	1241.7611	48.8603	0.2277
h0 est	$1.2806e-06$	$1.2990e-05$	0.2903	185.4637	$1.1617e-06$	0.7371	-347.8549	1244.1231	48.3143	0.2180
2017										
h0 P	$5.9885e-07$	$2.8527e-06$	0.5529	345.2108	$5.6872e-05$	0.8929	-374.5824	1454.0623	27.1638	0.1734
h0 RV	$1.1253e-06$	$2.8804e-06$	0.4458	385.3987	$1.3258e-05$	0.8736	-375.6759	1451.8751	28.1492	0.1776
h0 Q	$2.9350e-12$	$2.8817e-06$	0.6603	296.3982	$5.3498e-05$	0.9134	-375.4921	1452.2428	26.5288	0.1747
h0 est	$2.0210e-06$	$4.3711e-06$	0.2194	358.9915	$6.3437e-05$	0.7827	-375.5725	1452.0820	31.9878	0.1749
2018										
h0 P	$7.3846e-12$	$2.3398e-06$	0.7460	298.3881	$2.3546e-05$	0.9543	-475.2397	1674.1627	41.8923	0.1683
h0 RV	$3.4653e-10$	$2.2705e-06$	0.7502	300.6165	$5.7185e-06$	0.9553	-470.5603	1683.5216	41.4679	0.1667
h0 Q	$2.1195e-06$	$2.3896e-05$	0.0147	93.2936	$2.7826e-05$	0.2227	-574.0551	1476.5320	197.4565	0.3062
h0 est	$3.9631e-09$	$2.2708e-06$	0.7490	301.4090	$3.6738e-06$	0.9553	-470.1863	1684.2696	41.4029	0.1669