Table 2: Out-of-Sample Forecasting Performance of Alternative Modeling Strategies: 3-Month Eurocanadian Dollar Rate

Forecasting Model	k-Step Ahead Horizon (Number of Point Forecasts)														
	1 (347)	5 (343)	10 (338)	24 (324)	48 (300)	72 (276)	96 (252)	120 (228)	144 (204)	168 (180)	192 (156)	216 (132)	240 (108)	264 (84)	288 (60)
Long Memory $d = 0.181$, **AR(6)**	0.1939	0.3731	0.4995	0.6725	0.8967	1.1485	1.3511	1.5557	1.7288	1.9032	1.9885	2.1110	2.3994	2.8483	3.3485
	0.1184	0.2161	0.3066	0.4803	0.6882	0.8608	1.0067	1.1110	1.1883	1.3088	1.4638	1.6622	2.0837	2.5637	2.9942
$d = 0.213$, **AR(6)**	0.1940	0.3747	0.5055	0.6927	0.9216	1.1942	1.4131	1.6326	1.8166	2.0060	2.1031	2.2363	2.5307	3.0153	3.5864
	0.1185	0.2177	0.3098	0.4850	0.7041	0.8860	1.0419	1.1691	1.2446	1.3605	1.5130	1.7142	2.1422	2.6669	3.1703
AR(2)	0.1929	0.3648	0.4753	0.6117	0.5353	1.0171	1.1764	1.3453	1.5078	1.6587	1.7476	1.8680	2.1266	2.4250	2.6567
	0.1180	0.2108	0.3037	0.4808	0.6671	0.8064	0.8918	0.9989	1.1887	1.4044	1.5955	1.7616	2.0212	2.3054	2.4984
RW	0.1937	0.3637	0.4748	0.6160	0.8333	1.0145	1.1722	1.3392	1.4995	1.6487	1.7340	1.8524	2.1079	2.4065	2.6402
	0.1186	0.2110	0.3026	0.4801	0.6652	0.8042	0.8884	0.9909	1.1756	1.3889	1.5776	1.7413	2.0009	2.2857	2.4790

Notes: The test set consists of the last 347 observations for each series. The first entry of each cell is the root mean squared error (RMSE), while the second is the mean absolute deviation (MAD). AR(k) stands for an autoregression model of order k. RW stands for random walk (with drift). The long memory model consists of the fractional differencing parameter d and the order of the AR polynomial. The coefficient estimates and associated test statistics for the various AR models are available upon request. Those RMSEs and MADs obtained from the long memory models which are lower than those obtained from the RW model are underlined. The forecasting performance of the long memory model corresponding to $d = 0.180$ is not reported as it is essentially identical to the one for $d = 0.181$.

Table 3: Out-of-Sample Forecasting Performance of Alternative Modeling Strategies: 3-Month Euromark Rate

Forecasting Model	| k-Step Ahead Horizon (Number of Point Forecasts)														
	1 (347)	5 (343)	10 (338)	24 (324)	48 (300)	72 (276)	96 (252)	120 (228)	144 (204)	168 (180)	192 (156)	216 (132)	240 (108)	264 (84)	288 (60)
Long Memory $d = 0.149$, **AR(6)**	0.0784	0.1659	0.2110	0.3305	0.4831	0.6360	0.8309	1.0574	1.3104	1.5316	1.7941	2.0119	2.2364	2.4591	2.6998
	0.0585	0.1262	0.1663	0.2657	0.4026	0.5626	0.7580	0.9895	1.2729	1.4713	1.7416	1.9858	2.2044	2.4149	2.6681
$d = 0.181$, **AR(5)**	0.0786	0.1664	0.2120	0.3304	0.4733	0.6084	0.7910	1.0046	1.2469	1.4624	1.7177	1.9246	2.1495	2.3696	2.6094
	0.0586	0.1263	0.1670	0.2665	0.3906	0.5298	0.7091	0.9263	1.2045	1.3946	1.6567	1.8900	2.1084	2.3130	2.5673
$d = 0.172$, **AR(5)**	0.0786	0.1660	0.2115	0.3299	0.4748	0.6140	0.7994	1.0159	1.2606	1.4770	1.7336	1.9427	2.1666	2.3867	2.6253
	0.0585	0.1262	0.1667	0.2659	0.3929	0.5366	0.7201	0.9408	1.2198	1.4115	1.6747	1.9108	2.1284	2.3340	0.5866
AR(1)	0.0781	0.1667	0.2195	0.3721	0.6120	0.8674	1.1336	1.4260	1.7284	1.9876	2.2885	2.5555	2.7886	3.0330	3.2888
	0.0584	0.1285	0.1717	0.2935	0.5488	0.8303	1.0966	1.3997	1.7106	1.9609	2.2689	2.5491	2.7778	3.0183	3.2804
RW	0.0778	0.1673	0.2194	0.3713	0.6105	0.8653	1.1307	1.4225	1.7244	1.9832	2.2836	2.5502	2.7830	3.0268	3.2835
	0.0583	0.1286	0.1719	0.2928	0.5470	0.8279	1.0935	1.3959	1.7065	1.9565	2.2637	2.5435	2.7720	3.0119	3.2749

See notes in Table 2 for explanation.

Table 4: Out-of-Sample Forecasting Performance of Alternative Modeling Strategies: 6-Month Euromark Rate

Forecasting Model	k-Step Ahead Horizon (Number of Point Forecasts)														
	1 (347)	5 (343)	10 (338)	24 (324)	48 (300)	72 (276)	96 (252)	120 (228)	144 (204)	168 (180)	192 (156)	216 (132)	240 (108)	264 (84)	288 (60)
Long Memory															
$d = 0.109$, **AR(2)**	0.0810	0.1582	0.2020	0.2966	0.4445	0.6086	0.7845	0.9899	1.2022	1.3968	1.6253	1.8441	2.0825	2.2994	2.5294
	0.0596	0.1226	0.1602	0.2387	0.3757	0.5502	0.7327	0.9464	1.1749	1.3554	1.5908	1.8208	2.0582	2.2699	2.5134
$d = 0.148$, **AR(2)**	0.0814	0.1600	0.2033	0.2942	0.4229	0.5593	0.7131	0.8995	1.0944	1.2764	1.4874	1.6866	1.9173	2.1237	2.3423
	0.0600	0.1240	0.1618	0.2397	0.3533	0.4919	0.6473	0.8402	1.0576	1.2195	1.4382	1.6522	1.8825	2.0804	2.3162
$d = 0.130$, **AR(2)**	0.0812	0.1591	0.2025	0.2947	0.4316	0.5807	0.7447	0.9400	1.1432	1.3310	1.5503	1.7588	1.9933	2.2047	2.4286
	0.0598	0.1233	0.1609	0.2388	0.3626	0.5179	0.6853	0.8882	1.1109	1.2819	1.5086	1.7302	1.9639	2.1685	2.4079
AR(1)	0.0806	0.1593	0.2136	0.3464	0.5850	0.8431	1.0944	1.3638	1.6327	1.8769	2.1613	2.4382	2.7071	2.9633	3.2349
	0.0590	0.1230	0.1665	0.2801	0.5293	0.8126	1.0712	1.3457	1.6211	1.8590	2.1482	2.4301	2.6973	2.9527	3.2305
RW	0.0815	0.1601	0.2137	0.3453	0.5827	0.8395	1.0896	1.3580	1.6261	1.8695	2.1526	2.4287	2.6966	2.9518	3.2235
	0.0592	0.1235	0.1670	0.2789	0.5270	0.8083	1.0659	1.3394	1.6140	1.8512	2.1391	2.4202	2.6867	2.9409	3.2188

See notes in Table 2 for explanation.

Table 5: Out-of-Sample Forecasting Performance of Alternative Modeling Strategies: 3-Month Euroswiss Franc Rate

Forecasting Model	k-Step Ahead Horizon (Number of Point Forecasts)														
	1 (347)	5 (343)	10 (338)	24 (324)	48 (300)	72 (276)	96 (252)	120 (228)	144 (204)	168 (180)	192 (156)	216 (132)	240 (108)	264 (84)	288 (60)
Long Memory $d = 0.215$, **AR(4)**	0.1169 0.0837	0.1781 0.1292	0.2181 0.1619	0.3195 0.2492	0.3987 0.3049	0.4436 0.3138	0.4914 0.3637	0.4876 0.3469	0.5364 0.4126	0.6280 0.4702	0.6080 0.4379	0.6567 0.4741	0.7001 0.5190	0.9051 0.6897	1.1476 0.9210
$d = 0.152$, **AR(4)**	0.1164 0.0831	0.1747 0.1263	0.2127 0.1582	0.3081 0.2402	0.3968 0.3024	0.4685 0.3403	0.5291 0.3824	0.5549 0.4104	0.6211 0.4837	0.7135 0.5469	0.7516 0.5888	0.8345 0.6751	0.9501 0.8610	1.1778 1.0653	1.4410 1.3333
AR(1)	0.1156 0.0815	0.1809 0.1295	0.2222 0.1680	0.3446 0.2656	0.5395 0.4375	0.7320 0.6228	0.8911 0.7908	1.0399 0.9540	1.1981 1.1224	1.3639 1.2906	1.5476 1.4879	1.7362 1.6924	1.9685 1.9508	2.2524 2.2298	2.5640 2.5452
RW	0.1142 0.0800	0.1796 0.1287	0.2213 0.1674	0.3445 0.2656	0.5405 0.4388	0.7340 0.6253	0.8938 0.7943	1.0435 0.9583	1.2027 1.1276	1.3692 1.2965	1.5538 1.4947	1.7433 1.7000	1.9766 1.9592	2.2612 2.2390	2.5734 2.5550

Notes: The forecasting performance of the long memory model corresponding to $d = 0.210$ is not reported as it is essentially identical to the one for $d = 0.215$. See notes in Table 2 for additional explanation of the table.

Table 6: Out-of-Sample Forecasting Performance of Alternative Modeling Strategies: 6-Month Euroswiss Franc Rate

Forecasting Model	k-Step Ahead Horizon (Number of Point Forecasts)														
	1 (347)	5 (343)	10 (338)	24 (324)	48 (300)	72 (276)	96 (252)	120 (228)	144 (204)	168 (180)	192 (156)	216 (132)	240 (108)	264 (84)	288 (60)
Long Memory $d = 0.285$, **AR(6)**	0.1212	0.1777	0.2263	0.3170	0.3979	0.4740	0.5338	0.5398	0.5677	0.6374	0.5911	0.6308	0.6124	0.7706	0.9305
	0.0810	0.1316	0.1691	0.2477	0.3032	0.3406	0.4102	0.3889	0.4438	0.4950	0.4331	0.4903	0.4532	0.5935	0.7160
$d = 0.308$, **AR(6)**	0.1214	0.1789	0.2289	0.3239	0.4079	0.4844	0.5484	0.5604	0.6007	0.6842	0.6457	0.6882	0.6465	0.7860	0.9251
	0.0812	0.1323	0.1708	0.2518	0.3083	0.3509	0.4236	0.4043	0.4711	0.5374	0.4846	0.5449	0.4884	0.6173	0.7214
$d = 0.211$, **AR(5)**	0.1210	0.1765	0.2211	0.3028	0.3854	0.4734	0.5361	0.5457	0.5566	0.6050	0.5872	0.6550	0.7512	0.9613	1.1785
	0.0806	0.1306	0.1658	0.2394	0.2970	0.3351	0.4060	0.4088	0.4335	0.4505	0.4334	0.5072	0.5973	0.7969	1.0372
AR(2)	0.1203	0.1796	0.2290	0.3437	0.5552	0.7689	0.9434	1.0838	1.2058	1.3538	1.5381	1.7530	2.0228	2.3250	2.6317
	0.0789	0.1305	0.1715	0.2726	0.4663	0.6479	0.8234	0.9730	1.1217	1.2831	1.4785	1.7079	2.0041	2.3049	2.6213
R W	0.1241	0.1835	0.2327	0.3455	0.5570	0.7707	0.9461	1.0874	1.2101	1.3592	1.5439	1.7591	2.0299	2.3331	2.6419
	0.0799	0.1327	0.1730	0.2730	0.4673	0.6502	0.8263	0.9769	1.1264	1.2877	1.4835	1.7136	2.0108	2.3126	2.6309

See notes in Table 2 for explanation.

Table 7: Out-of-Sample Forecasting Performance of Alternative Modeling Strategies: 3-Month Euroyen Rate

Forecasting Model	k-Step Ahead Horizon (Number of Point Forecasts)														
	1 (347)	5 (343)	10 (338)	24 (324)	48 (300)	72 (276)	96 (252)	120 (228)	144 (204)	168 (180)	192 (156)	216 (132)	240 (108)	264 (84)	288 (60)
Long Memory $d = 0.250$, **AR(5)**	0.0484 0.0345	0.0846 0.0606	0.1161 0.0856	0.1920 0.1477	0.2675 0.2156	0.3371 0.2827	0.4096 0.3313	0.4293 0.3387	0.3682 0.2807	0.3464 0.2865	0.3663 0.3101	0.3889 0.3158	0.5098 0.4387	0.5625 0.5331	0.5102 0.4890
$d = 0.190$, **AR(4)**	0.0483 0.0343	0.0841 0.0601	0.1149 0.0840	0.1884 0.1446	0.2639 0.2111	0.3344 0.2806	0.4060 0.3323	0.4274 0.3431	0.3776 0.2873	0.3683 0.2964	0.4000 0.3332	0.4487 0.3875	0.5730 0.4983	0.6532 0.6345	0.6248 0.6112
AR(1)	0.0482 0.0331	0.0844 0.0576	0.1181 0.0828	0.2022 0.1479	0.3196 0.2437	0.4361 0.3634	0.5476 0.4771	0.6177 0.5539	0.6577 0.6172	0.7293 0.6956	0.8341 0.8033	0.9758 0.9579	1.1426 1.1253	1.2814 1.2768	1.3397 1.3349
RW	0.0491 0.0334	0.0847 0.0578	0.1184 0.0832	0.2023 0.1481	0.3194 0.2437	0.4358 0.3632	0.5473 0.4767	0.6175 0.5536	0.6575 0.6167	0.7289 0.6951	0.8336 0.8027	0.9752 0.9572	1.1419 1.1245	1.2808 1.2761	1.3390 1.3341

Notes: The forecasting performance of the long memory model corresponding to $d = 0.244$ is not reported as it is essentially identical to the one for $d = 0.250$. See notes in Table 2 for additional explanation of the table.

Table 8: Out-of-Sample Forecasting Performance of Alternative Modeling Strategies: 6-Month Euroyen Rate

Forecasting Model	k-Step Ahead Horizon (Number of Point Forecasts)														
	1 (347)	5 (343)	10 (338)	24 (324)	48 (300)	72 (276)	96 (252)	120 (228)	144 (204)	168 (180)	192 (156)	216 (132)	240 (108)	264 (84)	288 (60)
Long Memory $d = 0.298$, **AR(6)**	0.0458	0.0806	0.1129	0.1885	0.2725	0.3534	0.4447	0.4929	0.4805	0.4663	0.4105	0.3935	0.5175	0.5843	0.5375
	0.0325	0.0592	0.0836	0.1456	0.2259	0.2841	0.3585	0.3989	0.3693	0.3680	0.3416	0.3115	0.4209	0.5293	0.5154
$d = 0.237$, **AR(4)**	0.0455	0.0841	0.1149	0.1884	0.2639	0.3344	0.4060	0.4274	0.3776	0.3683	0.4000	0.4487	0.5730	0.6532	0.6248
	0.0323	0.0601	0.0840	0.1446	0.2111	0.2806	0.3323	0.3431	0.2873	0.2964	0.3332	0.3875	0.4983	0.6345	0.6112
AR(1)	0.0456	0.0808	0.1158	0.2024	0.3320	0.4583	0.5740	0.6518	0.7056	0.7755	0.8583	0.9830	1.1522	1.2996	1.3725
	0.0314	0.0579	0.0866	0.1631	0.2632	0.3829	0.4786	0.5492	0.6231	0.7132	0.8193	0.9582	1.1290	1.2898	1.3669
RW	0.0465	0.0809	0.1160	0.2020	0.3308	0.4563	0.5714	0.6486	0.7016	0.7706	0.8524	0.9762	1.1445	1.2912	1.3634
	0.0315	0.0583	0.0869	0.1627	0.2622	0.3810	0.4762	0.5455	0.6184	0.7078	0.8130	0.9512	1.1210	1.2812	1.3577

Notes: The forecasting performance of the long memory model corresponding to $d = 0.290$ is not reported as it is essentially identical to the one for $d = 0.298$. See notes in Table 2 for additional explanation of the table.

Table 9: Relative Forecasting Performance of the Long Memory and the Random Walk Models

	k-Step Ahead Horizon														
Forecasting Model	**1**	**5**	**10**	**24**	**48**	**72**	**96**	**120**	**144**	**168**	**192**	**216**	**240**	**264**	**288**
CD (3-month), $d = 0.213$	1.0015	1.0302	1.0647	1.1245	1.1060	1.1771	1.2055	1.2191	1.2115	1.2167	1.2129	1.2072	1.2008	1.2530	1.3584
	0.9992	1.0318	1.0238	1.0102	1.0585	1.1017	1.1728	1.1798	1.0587	0.9796	0.9591	0.9844	1.0706	1.1668	1.2789
GM (3-month), $d = 0.181$	1.0103	0.9946	0.9663	0.8898	0.7753	0.7031	0.6996	0.7062	0.7247	0.7374	0.7522	0.7547	0.7723	0.7829	0.7947
	1.0051	0.9821	0.9715	0.9102	0.7141	0.6399	0.6485	0.6636	0.7058	0.7128	0.7319	0.7431	0.8289	0.7680	0.7839
GM (6-month), $d = 0.148$	0.9988	0.9994	0.9513	0.8520	0.7258	0.6662	0.6545	0.6624	0.6730	0.6827	0.6910	0.6944	0.7110	0.7195	0.7266
	1.0135	1.0040	0.9689	0.8594	0.6704	0.6086	0.6073	0.6273	0.6553	0.6588	0.6723	0.6827	0.7007	0.7074	0.7196
SF (3-month), $d = 0.215$	1.0236	0.9916	0.9855	0.9274	0.7377	0.6044	0.5498	0.4673	0.4460	0.4587	0.3913	0.3767	0.3542	0.4003	0.4459
	1.0463	1.0039	0.9671	0.9383	0.6948	0.5018	0.4579	0.3620	0.3659	0.3627	0.2930	0.2789	0.2649	0.3080	0.3605
SF (6-month), $d = 0.308$	0.9782	0.9749	0.9837	0.9375	0.7323	0.6285	0.5120	0.5154	0.4964	0.5034	0.4182	0.3912	0.3185	0.3369	0.3502
	1.0163	0.9970	0.9873	0.9223	0.6597	0.5397	0.4247	0.4139	0.4182	0.4173	0.3267	0.3180	0.2429	0.2669	0.2742
JY (3-month), $d = 0.250$	0.9857	0.9988	0.9806	0.9491	0.8375	0.7735	0.7484	0.6952	0.5600	0.4752	0.4394	0.3988	0.4464	0.4392	0.3810
	1.0329	1.0484	1.0288	0.9973	0.8847	0.7784	0.6950	0.6118	0.4552	0.4122	0.3863	0.3299	0.3901	0.4178	0.3665
JY (6-month), $d = 0.298$	0.9849	0.9963	0.9733	0.9332	0.8238	0.7745	0.7783	0.7599	0.6849	0.6051	0.4816	0.4031	0.4522	0.4525	0.3942
	1.0317	1.0154	0.9620	0.8949	0.8616	0.7457	0.7528	0.7313	0.5972	0.5199	0.4202	0.3275	0.3755	0.4131	0.3796

Notes: The long memory model for each series is the one corresponding to the highest d estimate. Similar results are obtained for the other long memory models reported in previous tables. The first (second) entry in each cell is the ratio of the RMSE (MAD) value achieved by the long memory model to that of the random-walk-with-drift model. See Table 2 for additional explanation of the table.