

Appendix A: Parameter Estimates of Fitted Models

Table 1: Parameter estimation of results of the GAS and LMGAS model for the Bitcoin, Ethereum, Litecoin and Ripple daily returns.

	Parameters	Estimate	p-value
GAS			
Bitcoin	$\hat{\omega}_\mu$	0.0026	< 0.0001
	$\hat{\omega}_\phi$	-0.6472	< 0.0001
	$\hat{a}_\phi$	0.1898	< 0.0001
	$\hat{b}_\phi$	0.9000	< 0.0001
Ethereum	$\hat{\omega}_\mu$	0.0008	< 0.0001
	$\hat{\omega}_\phi$	-0.5679	< 0.0001
	$\hat{a}_\phi$	0.1898	< 0.0001
	$\hat{b}_\phi$	0.8972	< 0.0001
Litecoin	$\hat{\omega}_\mu$	0.0005	< 0.0001
	$\hat{\omega}_\phi$	-0.7858	< 0.0001
	$\hat{a}_\phi$	0.1897	< 0.0001
	$\hat{b}_\phi$	0.8641	< 0.0001
Ripple	$\hat{\omega}_\mu$	-0.0032	0.0008
	$\hat{\omega}_\phi$	-0.3809	< 0.0001
	$\hat{a}_\phi$	0.1897	< 0.0001
	$\hat{b}_\phi$	0.9303	< 0.0001
LMGAS			
Bitcoin	$\hat{\omega}_\mu$	-0.0014	< 0.0001
	$\hat{\omega}_\phi$	-3.6090	< 0.0001
	$\hat{a}_\mu$	0.0070	< 0.0001
	$\hat{b}_\mu$	0.9389	< 0.0001
Ethereum	$\hat{\omega}_\mu$	0.0179	< 0.0001
	$\hat{\omega}_\phi$	-1.4072	< 0.0001
	$\hat{a}_\phi$	< 0.0001	< 0.0001
	$\hat{b}_\phi$	0.5661	< 0.0001
Litecoin	$\hat{\omega}_\mu$	-0.0002	< 0.0001
	$\hat{\omega}_\phi$	-0.3574	< 0.0001
	$\hat{a}_\mu$	0.0001	< 0.0001
	$\hat{a}_\phi$	0.3794	< 0.0001
	$\hat{b}_\mu$	0.9800	< 0.0001
	$\hat{b}_\phi$	0.9138	< 0.0001
Ripple	$\hat{\omega}_\mu$	0.0012	< 0.0001
	$\hat{\omega}_\phi$	-0.7383	< 0.0001
	$\hat{a}_\mu$	< 0.0001	< 0.0001
	$\hat{a}_\phi$	< 0.0001	< 0.0001
	$\hat{b}_\mu$	0.9000	< 0.0001
	$\hat{b}_\phi$	0.7979	< 0.0001

Table 2: Parameter Estimation of results of the GARCH and FIAPARCH model for the Bitcoin, Ethereum, Litecoin and Ripple daily returns.

	Parameters	Estimate	p-value
GARCH			
Bitcoin	μ	0.0022	0.0008
	ω	0.0001	< 0.0001
	$ARCH(\alpha_1)$	0.1394	< 0.0001
	$GARCH(\beta_1)$	0.8278	< 0.0001
Ethereum	μ	0.0019	0.0552
	ω	0.0002	< 0.0001
	$ARCH(\alpha_1)$	0.1642	< 0.0001
	$GARCH(\beta_1)$	0.7594	< 0.0001
Litecoin	ω	0.0001	< 0.0001
	$ARCH(\alpha_1)$	0.0740	< 0.0001
	$GARCH(\beta_1)$	0.9027	< 0.0001
Ripple	μ	-0.0022	0.0102
	ω	0.0003	< 0.0001
	$ARCH(\alpha_1)$	0.3392	< 0.0001
	$GARCH(\beta_1)$	0.6456	< 0.0001
FIAPARCH			
Bitcoin	μ	0.0022	0.0010
	$d - FIGARCH(d)$	0.3598	0.0005
	$ARCH(\alpha_1)$	0.2066	0.0681
	$APARCH(\delta_1)$	2.3197	< 0.0001
Ethereum	μ	0.0023	0.0467
	$d - FIGARCH(d)$	0.2974	0.0245
	$APARCH(\delta_1)$	2.5429	< 0.0001
Litecoin	$d - FIGARCH(d)$	0.3823	0.0757
	$ARCH(\alpha_1)$	0.3354	0.0160
	$GARCH(\beta_1)$	0.6462	0.0112
	$APARCH(\delta_1)$	2.3055	< 0.0001
Ripple	μ	-0.0024	0.0437
	$d - FIGARCH(d)$	0.3190	0.0609
	$APARCH(\delta_1)$	2.4313	< 0.0001

Appendix B: Additional Diagnostics

Table 3: Descriptive statistics and normality tests of the residuals extracted from the Gaussian GAS, LMGAS, GARCH and FIAPARCH models fitted to the daily Bitcoin, Ethereum, Litecoin and Ripple returns

	Bitcoin		Ethereum		Litecoin		Ripple	
Statistic/Test	Estimate	p-value	Estimate	p-value	Estimate	p-value	Estimate	p-value
GAS								
Mean	-0.0267	-	0.0168	-	0.0020	-	0.0622	-
Standard Deviation	0.9712	-	0.9474	-	0.9697	-	0.9207	-
Skewness	-0.6673	-	-1.1450	-	0.5241	-	0.9671	-
Kurtosis	8.6313	-	13.7946	-	14.8150	-	13.8563	-
Jarque-Bera test	8140.9000	< 0.0001	20807.0000	< 0.0001	23536.0000	< 0.0001	20886.0000	< 0.0001
LMGAS								
Mean	0.0444	-	0.0155	-	0.0191	-	0.0000	-
Standard Deviation	0.4475	-	0.9994	-	0.9943	-	1.0001	-
Skewness	-26.0515	-	-6.8075	-	-11.1478	-	-2.1435	-
Kurtosis	1036.3681	-	106.8667	-	351.5714	-	56.0263	-
Jarque-Bera	1.1490×10^8	< 0.0001	1.2351×10^6	< 0.0001	1.3242×10^7	< 0.0001	2.5926×10^5	< 0.0001
GARCH								
Mean	-0.0132	-	-0.0040	-	0.0165	-	0.0438	-
Standard Deviation	0.9998	-	1.0280	-	0.9993	-	0.9985	-
Skewness	-0.6953	-	-0.9993	-	0.8610	-	0.7898	-
Kurtosis	9.9680	-	11.2900	-	17.8300	-	11.6500	-
Jarque-Bera	10810.000	< 0.0001	13991.0000	< 0.0001	34248.0000	< 0.0001	14744.0000	< 0.0001
FIAPARCH								
Mean	-0.0114	-	-0.0144	-	0.0186	-	0.0542	-
Standard Deviation	1.0137	-	1.0003	-	1.0158	-	0.9933	-
Skewness	-0.7083	-	-0.9683	-	1.6594	-	1.3780	-
Kurtosis	10.9311	-	9.8733	-	33.2556	-	21.4419	-
Jarque-Bera	1.2965×10^4	< 0.0001	1.0773×10^4	< 0.0001	1.1916×10^5	< 0.0001	4.9861×10^4	< 0.0001

Table 4: AD tests of the models fitted to the extracted residuals of the Gaussian GAS model from the daily Bitcoin, Ethereum, Litecoin and Ripple log returns

	Bitcoin		Ethereum		Litecoin		Ripple	
	Test Statistic	p-value	Test Statistic	p-value	Test Statistic	p-value	Test Statistic	p-value
GAS								
GHD	0.5532	0.6932	0.8836	0.4245	0.1999	0.9905	1.6584	0.1428
GLD	1.7000	0.1000	1.5000	0.2000	0.6400	0.6000	0.2900	0.9000
LMGAS								
GHD	1.8000	0.1000	3.2000	0.2000	1.7000	0.1000	1.8000	0.1000
GLD	1.4000	0.2000	3.7000	0.1000	1.2000	0.3000	1.8000	0.1000
GARCH								
GHD	2644	< 0.0001	2576	< 0.0001	2556	< 0.0001	2560	< 0.0001
GLD	2653	< 0.0001	2582	< 0.0001	2586	< 0.0001	2561	< 0.0001
FIAPARCH								
GHD	0.4500	0.8000	0.9400	0.4000	0.2300	1.0000	0.2500	1.0000
GLD	1.2000	0.3000	1.4000	0.2000	0.2300	1.0000	0.2600	1.0000

Appendix C: Comprehensive Value-at-Risk (VaR) and Backtesting Tables

Table 5: VaR estimates for the returns at long and short positions

	Distribution	Long position			Short position		
		1%	2.5%	5%	95%	97.5%	99%
Bitcoin	GAS-GHD	-2.8720	-2.1247	-1.5803	1.4797	1.9953	2.7030
	GAS-GLD	-3.0842	-2.0929	-1.4982	1.3858	1.9033	2.7357
	LMGAS-GHD	-0.7368	-0.4899	-0.3438	0.4325	0.5690	0.7932
	LMGAS-GLD	-0.7228	-0.4910	-0.3458	0.4425	0.5861	0.8148
	GARCH-GHD	-2.9361	-2.1575	-1.5963	1.5194	2.0472	2.7794
	GARCH-GLD	-3.0905	-2.1132	-1.5193	1.4360	1.9561	2.7833
	FIAPARCH-GHD	-2.9646	-2.1737	-1.6057	1.5416	2.0820	2.8342
	FIAPARCH-GLD	-3.1047	-2.1243	-1.5283	1.4579	1.9921	2.8466
Ethereum	GAS-GHD	-2.5471	-1.9138	-1.4484	1.5239	2.0156	2.6848
	GAS-GLD	-2.6234	-1.8913	-1.4114	1.4375	1.9151	2.6428
	LMGAS-GHD	-1.9413	-1.5124	-1.1919	1.4106	1.7267	2.1485
	LMGAS-GLD	-2.9668	-1.9177	-1.3071	1.0565	1.3022	1.6364
	GARCH-GHD	-2.8189	-2.1006	-1.5874	1.5980	2.1260	2.8658
	GARCH-GLD	-2.8649	-2.0829	-1.5659	1.5412	2.0469	2.8075
	FIAPARCH-GHD	-2.7890	-2.0778	-1.5673	1.5500	2.0690	2.7923
	FIAPARCH-GLD	-2.8497	-2.0545	-1.5359	1.4800	1.9738	2.7214
Litecoin	GAS-GHD	-2.7293	-1.9667	-1.4390	1.4796	2.0370	2.8438
	GAS-GLD	-2.7507	-1.9061	-1.3854	1.4113	1.9637	2.8734
	LMGAS-GHD	-2.5276	-1.8527	-1.4021	1.5220	2.1192	3.0506
	LMGAS-GLD	-2.1747	-1.6405	-1.2558	1.4175	1.7618	2.2263
	GARCH-GHD	-2.7817	-1.9517	-1.4214	1.5319	2.1300	3.0846
	GARCH-GLD	-2.7458	-1.9312	-1.4182	1.4595	2.0115	2.9046
	FIAPARCH-GHD	-2.7327	-1.9075	-1.3903	1.4663	2.0338	2.9578
	FIAPARCH-GLD	-2.7134	-1.9044	-1.3955	1.4570	2.0060	2.8949
Ripple	GAS-GHD	-2.5263	-1.6982	-1.1907	1.4535	2.0911	3.1771
	GAS-GLD	-2.4296	-1.6486	-1.1761	1.3744	1.9549	2.9660
	LMGAS-GHD	-2.6560	-1.8135	-1.3052	1.3586	1.9414	2.9426
	LMGAS-GLD	-2.6019	-1.7939	-1.3007	1.3734	1.9534	2.9435
	GARCH-GHD	-2.7145	-1.8843	-1.3500	1.5275	2.1633	3.1705
	GARCH-GLD	-2.6850	-1.8400	-1.3246	1.4893	2.1142	3.1901
	FIAPARCH-GHD	-2.5547	-1.7818	-1.2905	1.5040	2.1273	3.1473
	FIAPARCH-GLD	-2.5083	-1.7532	-1.2797	1.4836	2.0901	3.1205

Table 6: In-sample VaR backtesting for the returns

Distribution	Unconditional Coverage							Conditional Coverage						
	Long position			Short position				Long position			Short position			
	1%	2.5%	5%	95%	97.5%	99%		1%	2.5%	5%	95%	97.5%	99%	
Bitcoin	GAS-GHD	0.2180	0.8089	0.9855	0.1192	0.3733	0.2505	0.312	0.8785	0.5943	0.2565	0.5581	0.1813	
	GAS-GLD	0.7540	0.8895	0.4612	0.4090	0.4478	0.2505	0.7583	0.8461	0.2932	0.1738	0.6381	0.1813	
	LMGAS-GHD	0.4673	0.8920	0.3655	0.0742	0.5256	0.0228	0.0001	0.0049	0.0085	0.0000	0.0087	0.0155	
	LMGAS-GLD	0.6033	0.8920	0.2750	0.2772	0.7089	0.0228	0.0000	0.0000	0.0000	0.0000	0.0125	0.0155	
	GARCH-GHD	0.5032	0.8895	0.5337	0.2377	0.5295	0.6047	0.5729	0.1815	0.7122	0.4649	0.7153	0.3891	
	GARCH-GLD	0.7540	0.6968	0.5171	0.4612	0.6177	0.6047	0.7583	0.7572	0.2926	0.4481	0.4296	0.3891	
	FIAPARCH-GHD	0.6329	0.6177	0.4747	0.3204	0.3067	0.7540	0.6542	0.2085	0.6535	0.3252	0.2255	0.4539	
	FIAPARCH-GLD	0.9110	0.9090	0.4612	0.8422	0.7113	0.6047	0.7762	0.202	0.73	0.4216	0.4801	0.3891	
	GAS-GHD	0.4942	0.8260	0.8233	0.9674	0.1613	0.1761	0.5735	0.8892	0.4928	0.0464	0.2751	0.3472	
	GAS-GLD	0.9220	0.8260	0.2612	0.0940	0.4609	0.0237	0.6565	0.8892	0.2722	0.0187	0.0749	0.3472	
Ethereum	LMGAS-GHD	0.2897	0.0265	0.3027	0.9638	0.6826	0.6129	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
	LMGAS-GLD	0.2897	0.0473	0.8918	0.9638	0.3051	0.9210	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
	GARCH-GHD	0.3825	0.6332	0.8173	0.8173	0.1246	0.2561	0.4834	0.7879	0.6225	0.0279	0.0877	0.4479	
	GARCH-GLD	0.9194	0.8260	0.4966	0.3006	0.7277	0.4768	0.7689	0.5176	0.6098	0.0483	0.4861	0.641	
	FIAPARCH-GHD	0.9194	0.5439	0.9674	0.6809	0.2572	0.0237	0.7689	0.2104	0.9922	0.8276	0.1564	0.0709	
	FIAPARCH-GLD	0.9220	0.8260	0.6164	0.0683	0.9266	0.1155	0.7846	0.2132	0.8812	0.1878	0.8835	0.2549	
	GAS-GHD	0.9110	0.3733	0.8422	0.4193	0.4478	0.1125	0.7762	0.6512	0.2488	0.4234	0.113	0.2498	
	GAS-GLD	0.7540	0.4478	0.2051	0.5171	0.7913	0.1125	0.7583	0.7179	0.0493	0.2926	0.1009	0.2498	
	LMGAS-GHD	0.0697	0.0031	0.0003	0.2359	0.0246	0.2497	0.1197	0.1751	0.3473	0.0008	0.0018	0.0005	
	LMGAS-GLD	0.0229	0.0001	< 0.0001	0.2008	0.0114	0.0411	0.0002	0.0000	0.0000	0.0003	0.0001	0.0008	
Litecoin	GARCH-GHD	0.9110	0.7913	0.5765	0.1433	0.2482	0.1719	0.7762	0.8718	0.0689	0.4733	0.2121	0.6352	
	GARCH-GLD	0.9110	0.6071	0.5765	0.9134	0.6968	0.6047	0.7762	0.6985	0.0843	0.1215	0.3004	0.709	
	FIAPARCH-GHD	0.9110	0.4465	0.3159	0.8699	0.8089	0.3496	0.7762	0.2972	0.096	0.1811	0.2121	0.5425	
	FIAPARCH-GLD	0.9110	0.4465	0.3159	0.9421	0.7912	0.7540	0.1126	0.0017	0.0000	0.0000	0.0003	0.0012	
	GAS-GHD	0.4685	0.5295	0.6391	0.7290	0.3067	0.4685	0.6352	0.7153	0.1578	0.0004	0.2255	0.6352	
	GAS-GLD	0.6047	0.7113	0.5765	0.4612	0.8089		0.7097	0.8485	0.1642	0.0011	0.2121	0.7625	
	LMGAS-GHD	0.2497	0.3717	0.7759	0.3181	0.1084	0.1107	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
	LMGAS-GLD	0.3486	0.4459	0.7759	0.3629	0.1084	0.1107	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Ripple	GARCH-GHD	0.6047	0.6177	0.6391	0.8422	0.8895	0.9305	0.7097	0.824	0.6508	0.2488	0.8461	0.7625	
	GARCH-GLD	0.7540	0.8089	0.4612	0.5765	0.8895	0.9305	0.7583	0.8785	0.6096	0.0843	0.8461	0.7625	
	FIAPARCH-GHD	0.1719	0.5295	0.4612	0.5765	0.6177	0.7767	0.3411	0.7764	0.7300	0.0843	0.824	0.7199	
	FIAPARCH-GLD	0.6047	0.8089	0.2752	0.3605	0.6177	0.7767	0.7097	0.8785	0.5471	0.0478	0.824	0.7199	
	GAS-GHD	0.4685	0.5295	0.6391	0.7290	0.3067	0.4685	0.6352	0.7153	0.1578	0.0004	0.2255	0.6352	
	GAS-GLD	0.6047	0.7113	0.5765	0.4612	0.8089		0.7097	0.8485	0.1642	0.0011	0.2121	0.7625	

Table 7: Out-of-sample VaR backtesting for the returns

Distribution	Unconditional Coverage							Conditional Coverage						
	Long position			Short position				Long position			Short position			
	1%	2.5%	5%	95%	97.5%	99%		1%	2.5%	5%	95%	97.5%	99%	
Bitcoin	GAS-GHD	0.3093	0.3047	0.6631	0.7379	0.8153	0.5208	0.2115	0.5799	0.3004	0.3935	0.7923	0.7694	
	GAS-GLD	0.6984	0.3047	0.4614	0.3014	0.8153	0.1584	0.2351	0.5799	0.3164	0.0177	0.7923	0.3594	
	LMGAS-GHD	0.5186	0.1047	0.1014	0.241	0.8473	0.1575	0.0000	0.0000	0.0000	0.0000	0.0001	0.3579	
	LMGAS-GLD	NA	0.0001	0.0001	NA	NA	NA	NA	0.0000	0.0000	NA	NA	NA	
	GARCH-GHD	0.1876	0.3047	0.8959	0.7379	0.8153	0.3096	0.1712	0.5799	0.5511	0.3935	0.7923	0.5728	
	GARCH-GLD	0.9543	0.3047	0.4614	0.4614	0.8153	0.1584	0.2065	0.5799	0.3164	0.3164	0.7923	0.3594	
	FIAPARCH-GHD	0.6984	0.4104	0.8959	0.8585	0.8153	0.7754	0.2351	0.6883	0.9699	0.0032	0.7923	0.8923	
	FIAPARCH-GLD	0.6984	0.4104	0.7766	0.3014	0.9871	0.5208	0.2351	0.6883	0.9238	0.0177	0.8533	0.7694	
Ethereum	GAS-GHD	0.6984	0.4104	0.9815	0.6227	0.843	0.7754	0.8272	0.6883	0.5082	0.6681	0.5297	0.8923	
	GAS-GLD	0.5208	0.4104	0.7766	0.6631	0.5368	0.7754	0.7694	0.6883	0.2798	0.4804	0.3985	0.8923	
	LMGAS-GHD	0.5186	0.222	0.0026	0.0000	0.0000	0.0000	0.0017	0.0000	0.0000	0.0000	0.0000	0.0000	
	LMGAS-GLD	0.7009	0.4135	0.902	0.0417	0.6458	0.0221	0.0106	0.0000	0.0000	0.0000	0.0026	0.0014	
	GARCH-GHD	0.9543	0.4104	0.8959	0.7379	0.5368	0.5208	0.2065	0.3376	0.5511	0.6782	0.3985	0.7694	
	GARCH-GLD	0.7754	0.3047	0.5575	0.9815	0.4104	0.5208	0.1572	0.3089	0.3129	0.6416	0.3234	0.7694	
	FIAPARCH-GHD	0.7754	0.6823	0.8959	0.7766	0.8153	0.1584	0.8923	0.348	0.9699	0.5434	0.583	0.3594	
	FIAPARCH-GLD	0.3096	0.2198	0.3014	0.4614	0.9871	0.1584	0.5728	0.2697	0.4838	0.3474	0.5695	0.3594	
Litecoin	GAS-GHD	0.9543	0.8153	0.5575	0.3311	0.4973	0.7754	0.9099	0.7923	0.3129	0.1583	0.5227	0.8923	
	GAS-GLD	0.7754	0.6823	0.5575	0.5152	0.8153	0.9543	0.8923	0.8452	0.3129	0.2673	0.583	0.9099	
	LMGAS-GHD	0.0583	0.1557	0.014	0.1873	0.6864	0.957	0.0109	0.0154	0.009	0.0197	0.0774	0.0091	
	LMGAS-GLD	0.3081	0.2524	0.0481	0.1014	0.2524	0.957	0.0442	0.0556	0.0023	0.0083	0.0622	0.0091	
	GARCH-GHD	0.4796	0.4104	0.6631	0.9815	0.9871	0.6984	0.6779	0.6883	0.3004	0.5082	0.5695	0.8272	
	GARCH-GLD	0.7754	0.6823	0.6631	0.9815	0.9871	0.6984	0.8923	0.8452	0.3004	0.5082	0.5695	0.8272	
	FIAPARCH-GHD	0.5208	0.4973	0.9815	0.2566	0.9871	0.9543	0.7694	0.5227	0.8619	0.1154	0.5695	0.9099	
	FIAPARCH-GLD	0.5208	0.9871	0.7766	0.4176	0.9871	0.9543	0.7694	0.5695	0.8883	0.2094	0.5695	0.9099	
Ripple	GAS-GHD	0.7754	0.8153	0.5575	0.4176	0.4973	0.1876	0.1572	0.2432	0.1300	0.0000	0.0015	0.0179	
	GAS-GLD	0.9543	0.8153	0.5575	0.4176	0.4973	0.1876	0.0091	0.2432	0.1300	0.0000	0.0015	0.0179	
	LMGAS-GHD	0.0053	0.0035	0.0024	0.014	0.0000	0.0297	0.0203	0.0000	0.0000	0.0000	0.0000	0.0000	
	LMGAS-GLD	0.0667	0.0035	0.0126	0.014	0.0000	0.0583	0.0049	0.0000	0.0000	0.0000	0.0000	0.0000	
	GARCH-GHD	0.3093	0.9871	0.6631	0.8959	0.8153	0.5208	0.2115	0.0529	0.8636	0.5511	0.583	0.7694	
	GARCH-GLD	0.4796	0.6496	0.8959	0.9815	0.6496	0.7754	0.6779	0.028	0.8879	0.5082	0.567	0.8923	
	FIAPARCH-GHD	0.6984	0.4104	0.8959	0.9815	0.3644	0.9543	0.8272	0.6883	0.5511	0.0202	0.4478	0.9099	
	FIAPARCH-GLD	0.6984	0.6823	0.8959	0.9815	0.2546	0.9543	0.8272	0.8452	0.5511	0.0202	0.3262	0.9099	

Table 8: Volatility Forecast Evaluations for Bitcoin, Ethereum, Litecoin and Ripple.

	Distribution	RMSE	MAE	QLIKE	R ² (log)
Bitcoin	GAS-GHD	0.0018	0.0007	512.1412	0.1650
	GAS-GLD	0.0019	0.0007	739.3266	0.1650
	LMGAS-GHD	0.0093	0.0036	NaN [†]	NaN [†]
	LMGAS-GLD	0.0091	0.003	55.672	0.000
	GARCH-GHD	0.0017	0.0011	-6.2708	0.0229
	GARCH-GLD	0.0017	0.0009	-6.3493	0.0229
	FIAPARCH-GHD	0.0021	0.0016	-6.012	0.0248
	FIAPARCH-GLD	0.0017	0.0009	-6.3072	0.0248
Ethereum	GAS-GHD	0.003	0.001	579.1387	0.1719
	GAS-GLD	0.003	0.001	545.5602	0.1719
	LMGAS-GHD	0.0056	0.0023	428.6561	0.000
	LMGAS-GLD	0.0056	0.0023	432.9261	0.000
	GARCH-GHD	0.0027	0.0012	-5.964	0.0294
	GARCH-GLD	0.0027	0.0013	-5.9614	0.0294
	FIAPARCH-GHD	0.0027	0.0013	-5.9403	0.031
	FIAPARCH-GLD	0.0027	0.0013	-5.9383	0.031
Litecoin	GAS-GHD	0.0041	0.0014	452.6532	0.0956
	GAS-GLD	0.0041	0.0014	441.4628	0.0956
	LMGAS-GHD	0.0064	0.0025	808.4961	0.000
	LMGAS-GLD	0.0064	0.0025	785.1924	0.000
	GARCH-GHD	0.0039	0.0017	-5.6662	0.0261
	GARCH-GLD	0.0039	0.0018	-5.6673	0.0261
	FIAPARCH-GHD	0.0039	0.0018	-5.6302	0.0071
	FIAPARCH-GLD	0.0039	0.0018	-5.6294	0.0071
Ripple	GAS-GHD	0.0111	0.0018	420.1552	0.0004
	GAS-GLD	0.0111	0.0018	523.8939	0.0004
	LMGAS-GHD	0.0204	0.0053	NaN [†]	NaN [†]
	LMGAS-GLD	0.0203	0.0051	43.1707	0.000
	GARCH-GHD	0.0113	0.0023	-3.877	0.0364
	GARCH-GLD	0.0127	0.0033	-4.7613	0.0364
	FIAPARCH-GHD	0.0124	0.0031	-5.4077	0.0480
	FIAPARCH-GLD	0.0117	0.0026	-5.3934	0.0480

[†] QLIKE not defined due to instability in conditional variance estimates.