Ljung-Box test for white noise

H0:
Logreturns are uncorrelated upto lag 12

Chi-Square	df	P-Value
21.018	1	0.000
26.801	2	0.000
27.358	3	0.000
27.639	4	0.000
40.816	5	0.000
45.373	6	0.000
46.626	7	0.000
54.988	8	0.000
60.103	9	0.000
61.592	10	0.000
68.612	11	0.000
69.671	12	0.000

| Breusch-Godfrey test for serial correlation H0: there is no serial correlation of any order up to 12		
Chi-Square	**df**	**P-value**
3329.216	12	0.000

von Neuman rank statistic	Test statistic Z	p-value A	p-value B	p-value C
1.80796	-5.55104	<.000001	1.000000	<.000001

Wald-Wolfowitz Test for Randomness
H0: The data are random

Wald-Wolfowitz Z	Pr > |Z|
-3.83557	0.0001

Logprice

Time series of logreturns
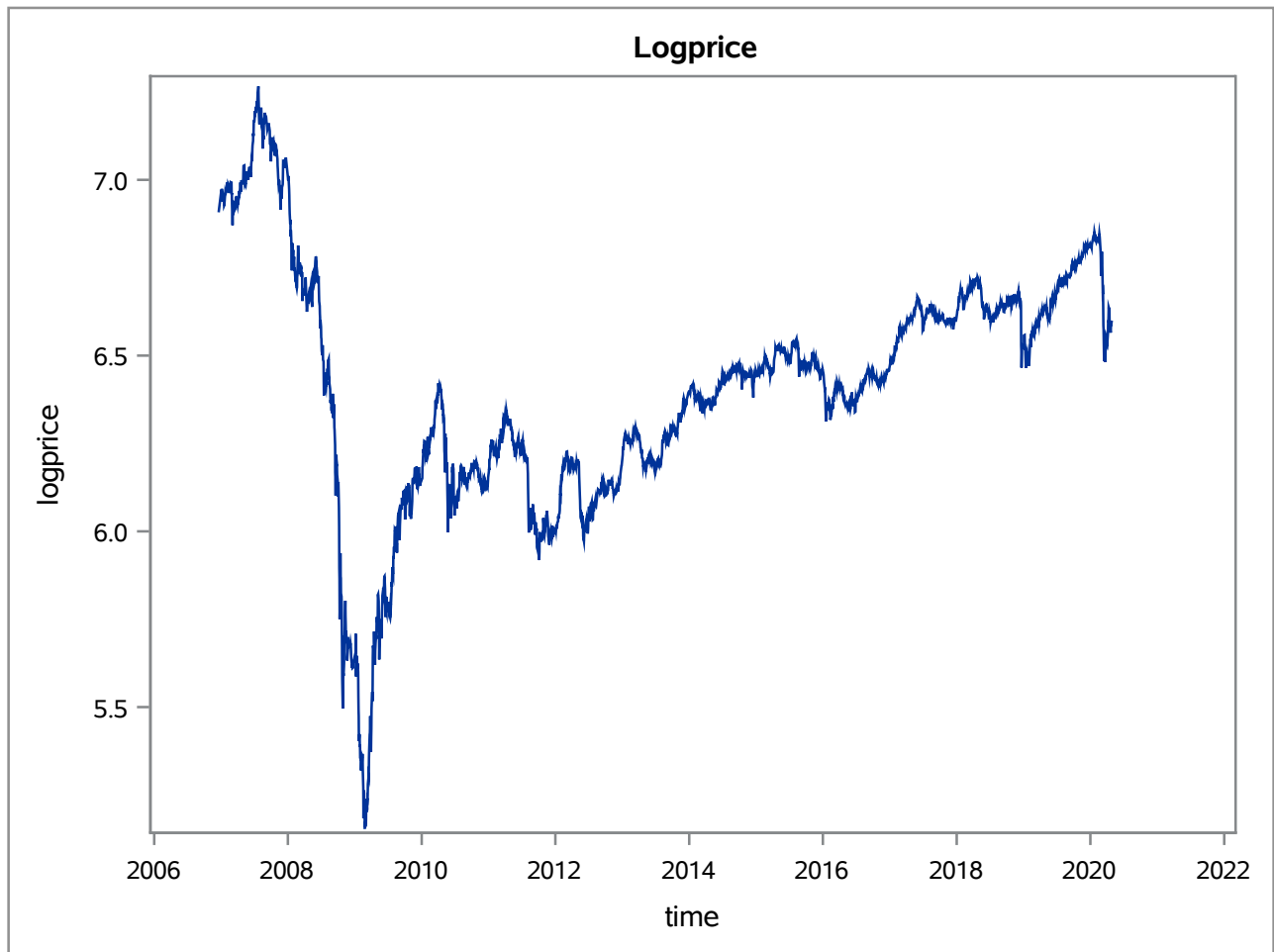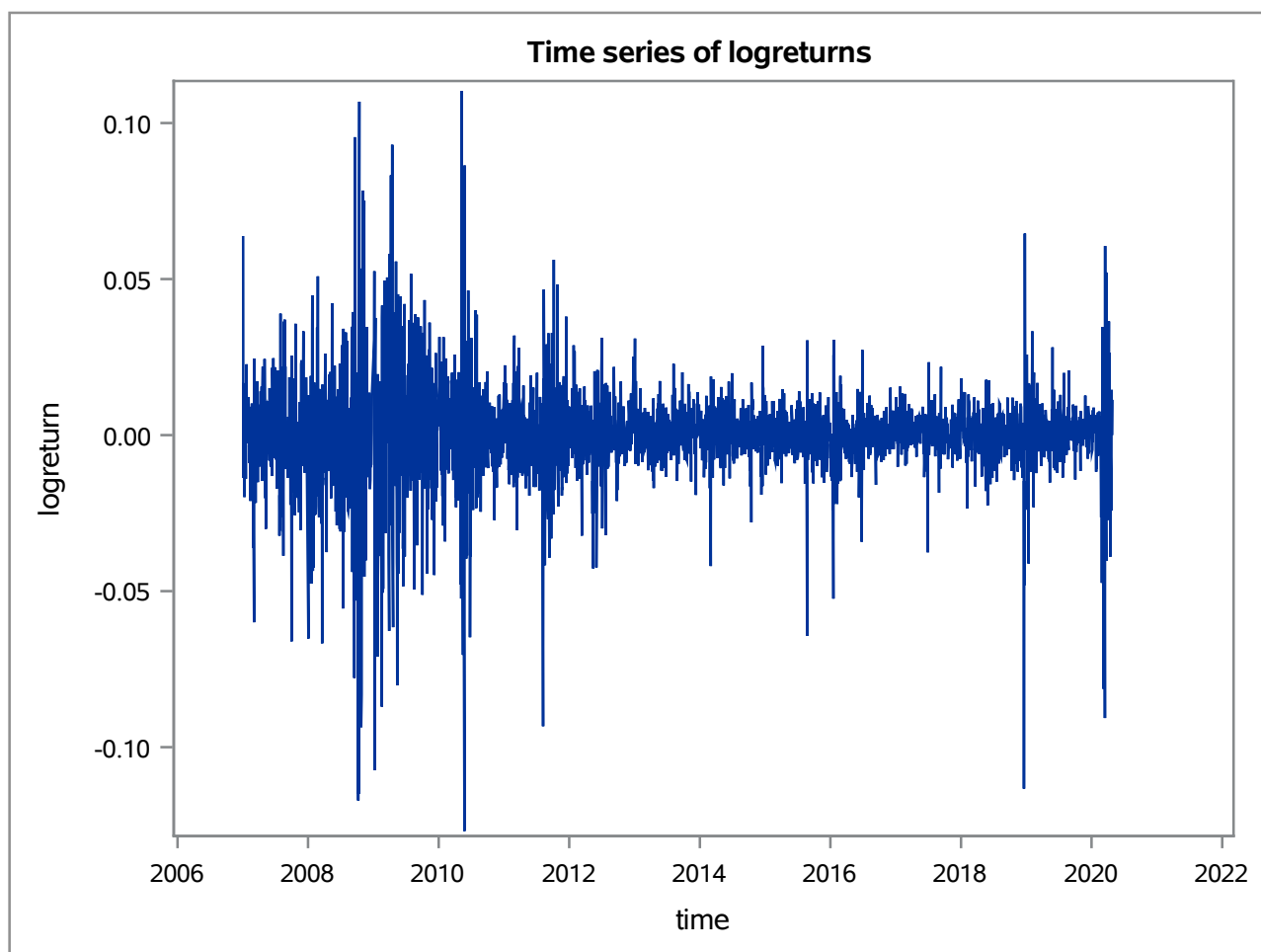
Obs	q	nq	VR	z	z_star	z_critic	Decision	lower_homo	upper_homo	lower_hetero	upper_hetero
1	2	3341	1.07735	4.47111	1.87483	2.57583	Reject Homoskedastic RW	1.03279	1.12192	0.97108	1.18363
2	3	3341	1.13197	5.11696	2.14565	2.57583	Reject Homoskedastic RW	1.06554	1.19840	0.97354	1.29039
3	4	3341	1.15250	4.71181	1.97576	2.57583	Reject Homoskedastic RW	1.06913	1.23588	0.95368	1.35133
4	5	3341	1.16154	4.26192	1.78711	2.57583	Reject Homoskedastic RW	1.06391	1.25918	0.92870	1.39438
5	6	3341	1.18914	4.42254	1.85446	2.57583	Reject Homoskedastic RW	1.07898	1.29931	0.92642	1.45186
6	7	3341	1.19880	4.21610	1.76789	2.57583	Reject Homoskedastic RW	1.07734	1.32026	0.90915	1.48846
7	8	3341	1.20106	3.92873	1.64740	2.57583	Reject Homoskedastic RW	1.06924	1.33288	0.88669	1.51542
8	9	3341	1.21411	3.89918	1.63500	2.57583	Reject Homoskedastic RW	1.07267	1.35555	0.87680	1.55143
9	10	3341	1.23257	3.98136	1.66946	2.57583	Reject Homoskedastic RW	1.08210	1.38303	0.87374	1.59139
10	11	3341	1.25186	4.08070	1.71112	2.57583	Reject Homoskedastic RW	1.09288	1.41084	0.87272	1.63100
11	12	3341	1.27579	4.25205	1.78297	2.57583	Reject Homoskedastic RW	1.10872	1.44287	0.87736	1.67423
12	13	3341	1.29901	4.40637	1.84768	2.57583	Reject Homoskedastic RW	1.12422	1.47380	0.88216	1.71586
13	14	3341	1.32166	4.54769	1.90694	2.57583	Reject Homoskedastic RW	1.13947	1.50385	0.88717	1.75615
14	15	3341	1.34779	4.73238	1.98438	2.57583	Reject Homoskedastic RW	1.15849	1.53709	0.89634	1.79923
15	16	3341	1.37768	4.95953	2.07963	2.57583	Reject Homoskedastic RW	1.18152	1.57383	0.90989	1.84547
16	17	3341	1.40659	5.16473	2.16568	2.57583	Reject Homoskedastic RW	1.20381	1.60937	0.92300	1.89018
17	18	3341	1.43686	5.37903	2.25553	2.57583	Reject Homoskedastic RW	1.22766	1.64606	0.93796	1.93576
18	19	3341	1.46362	5.54354	2.32452	2.57583	Reject Homoskedastic RW	1.24820	1.67905	0.94988	1.97737
19	20	3341	1.49146	5.71579	2.39675	2.57583	Reject Homoskedastic RW	1.26998	1.71293	0.96328	2.01964
20	21	3341	1.51374	5.82007	2.44047	2.57583	Reject Homoskedastic RW	1.28637	1.74111	0.97151	2.05597
21	22	3341	1.53384	5.89884	2.47350	2.57583	Reject Homoskedastic RW	1.30073	1.76696	0.97791	2.08977
22	23	3341	1.55097	5.94504	2.49287	2.57583	Reject Homoskedastic RW	1.31225	1.78968	0.98167	2.12027
23	24	3341	1.56794	5.99071	2.51202	2.57583	Reject Homoskedastic RW	1.32374	1.81214	0.98557	2.15030
24	25	3341	1.58468	6.03484	2.53053	2.57583	Reject Homoskedastic RW	1.33512	1.83423	0.98953	2.17982
25	26	3341	1.60105	6.07614	2.54785	2.57583	Reject Homoskedastic RW	1.34625	1.85585	0.99340	2.20871
26	27	3341	1.61695	6.11351	2.56352	2.57583	Reject Homoskedastic RW	1.35701	1.87689	0.99704	2.23686
27	28	3341	1.63056	6.12948	2.57022	2.57583	Reject Homoskedastic RW	1.36557	1.89554	0.99862	2.26249

Obs	q	nq	VR	z	z_star	z_critic	Decision	lower_homo	upper_homo	lower_hetero	upper_hetero
28	29	3341	1.64312	6.13702	2.57337	2.57583	Reject Homoskedastic RW	1.37319	1.91305	0.99939	2.28685
29	30	3341	1.65791	6.16720	2.58603	2.57583	Reject Homoskedastic and Heteroskedastic RW	1.38312	1.93270	1.00259	2.31323
30	31	3341	1.67188	6.19059	2.59584	2.57583	Reject Homoskedastic and Heteroskedastic RW	1.39232	1.95144	1.00518	2.33858
31	32	3341	1.68586	6.21503	2.60609	2.57583	Reject Homoskedastic and Heteroskedastic RW	1.40160	1.97012	1.00796	2.36376

Variance Ratio under Homoskedasticity

Variance Ratio under Heteroskedasticity