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LAMPIRAN

Lampiran 1 Data Saham PT Bank Central Asia Tbk (BBCA.JK), PT Bank Rakyat Indonesia Tbk (BBRI.JK) dan PT Bank Mandiri Tbk (BMRI.JK).

No	Tanggal	Saham BBCA	Saham BBRI	Saham BMRI
1	01/01/2019	5.200.000.000	3.327.215.332	3.687.500.000
2	02/01/2019	5.240.000.000	3.281.761.475	3.662.500.000
3	03/01/2019	5.180.000.000	3.290.852.295	3.587.500.000
4	04/01/2019	5.205.000.000	3.327.215.332	3.725.000.000
5	07/01/2019	5.245.000.000	3.327.215.332	3.712.500.000
6	08/01/2019	5.240.000.000	3.345.396.729	3.675.000.000
7	09/01/2019	5.255.000.000	3.381.759.766	3.787.500.000
8	10/01/2019	5.255.000.000	3.409.031.982	3.850.000.000
9	11/01/2019	5.250.000.000	3.390.850.586	3.850.000.000
10	14/01/2019	5.200.000.000	3.445.395.020	3.850.000.000
11	15/01/2019	5.260.000.000	3.436.304.199	3.900.000.000
12	16/01/2019	5.285.000.000	3.436.304.199	3.900.000.000
13	17/01/2019	5.330.000.000	3.463.576.416	3.937.500.000
14	18/01/2019	5.425.000.000	3.472.667.236	3.937.500.000
15	21/01/2019	5.545.000.000	3.454.485.840	3.900.000.000
16	22/01/2019	5.600.000.000	3.427.213.623	3.875.000.000
17	23/01/2019	5.500.000.000	3.427.213.623	3.737.500.000
18	24/01/2019	5.460.000.000	3.445.395.020	3.737.500.000
19	25/01/2019	5.500.000.000	3.436.304.199	3.687.500.000
20	28/01/2019	5.495.000.000	3.436.304.199	3.587.500.000
21	29/01/2019	5.540.000.000	3.354.487.549	3.562.500.000
22	30/01/2019	5.520.000.000	3.409.031.982	3.625.000.000
23	31/01/2019	5.635.000.000	3.499.939.453	3.725.000.000
24	01/02/2019	5.635.000.000	3.563.574.707	3.800.000.000
25	04/02/2019	5.500.000.000	3.545.393.311	3.675.000.000
26	05/02/2019	5.500.000.000	3.545.393.311	3.675.000.000
27	06/02/2019	5.535.000.000	3.563.574.707	3.737.500.000
28	07/02/2019	5.530.000.000	3.572.665.527	3.775.000.000
29	08/02/2019	5.520.000.000	3.536.302.490	3.787.500.000
30	11/02/2019	5.495.000.000	3.518.121.094	3.812.500.000
31	12/02/2019	5.460.000.000	3.499.939.453	3.712.500.000
32	13/02/2019	5.420.000.000	3.445.395.020	3.625.000.000
33	14/02/2019	5.380.000.000	3.454.485.840	3.587.500.000
34	15/02/2019	5.360.000.000	3.427.213.623	3.587.500.000
35	18/02/2019	5.480.000.000	3.490.848.877	3.637.500.000

36	19/02/2019	5.380.000.000	3.554.484.131	3.600.000.000
37	20/02/2019	5.500.000.000	3.536.302.490	3.550.000.000
38	21/02/2019	5.505.000.000	3.554.484.131	3.662.500.000
39	22/02/2019	5.490.000.000	3.545.393.311	3.550.000.000
40	25/02/2019	5.490.000.000	3.599.937.744	3.625.000.000
41	26/02/2019	5.555.000.000	3.581.756.348	3.637.500.000
42	27/02/2019	5.565.000.000	3.518.121.094	3.600.000.000
43	28/02/2019	5.515.000.000	3.499.939.453	3.562.500.000
44	01/03/2019	5.540.000.000	3.518.121.094	3.587.500.000
45	04/03/2019	5.535.000.000	3.527.211.914	3.550.000.000
46	05/03/2019	5.495.000.000	3.509.030.273	3.475.000.000
47	06/03/2019	5.490.000.000	3.545.393.311	3.537.500.000
48	07/03/2019	5.490.000.000	3.545.393.311	3.537.500.000
49	08/03/2019	5.440.000.000	3.499.939.453	3.450.000.000
50	11/03/2019	5.505.000.000	3.509.030.273	3.425.000.000
⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮
1182	18/10/2023	8.850.000.000	5.150.000.000	5.850.000.000
1183	19/10/2023	8.750.000.000	5.000.000.000	5.725.000.000
1184	20/10/2023	8.975.000.000	5.050.000.000	5.750.000.000
1185	23/10/2023	8.850.000.000	5.000.000.000	5.675.000.000
1186	24/10/2023	8.775.000.000	5.100.000.000	5.750.000.000
1187	25/10/2023	8.875.000.000	5.175.000.000	5.850.000.000
1188	26/10/2023	8.725.000.000	4.920.000.000	5.700.000.000
1189	27/10/2023	8.700.000.000	5.000.000.000	5.700.000.000
1190	30/10/2023	8.850.000.000	5.000.000.000	5.725.000.000
1191	31/10/2023	8.750.000.000	4.960.000.000	5.675.000.000
1192	01/11/2023	8.600.000.000	4.830.000.000	5.650.000.000
1193	02/11/2023	8.850.000.000	5.000.000.000	5.900.000.000
1194	03/11/2023	8.900.000.000	5.100.000.000	5.825.000.000
1195	06/11/2023	9.050.000.000	5.200.000.000	5.925.000.000
1196	07/11/2023	8.975.000.000	5.250.000.000	5.875.000.000
1197	08/11/2023	9.000.000.000	5.225.000.000	5.850.000.000
1198	09/11/2023	9.000.000.000	5.200.000.000	5.875.000.000
1199	10/11/2023	8.825.000.000	5.075.000.000	5.775.000.000
1200	13/11/2023	8.875.000.000	5.025.000.000	5.825.000.000
1201	14/11/2023	8.925.000.000	5.075.000.000	5.825.000.000

1202	15/11/2023	9.050.000.000	5.250.000.000	5.925.000.000
1203	16/11/2023	9.075.000.000	5.250.000.000	5.925.000.000
1204	17/11/2023	9.075.000.000	5.225.000.000	5.900.000.000
1205	20/11/2023	8.875.000.000	5.250.000.000	5.875.000.000
1206	21/11/2023	8.775.000.000	5.200.000.000	5.875.000.000
1207	22/11/2023	8.875.000.000	5.275.000.000	5.875.000.000
1208	23/11/2023	8.925.000.000	5.350.000.000	5.900.000.000
1209	24/11/2023	8.925.000.000	5.400.000.000	5.875.000.000
1210	27/11/2023	8.875.000.000	5.350.000.000	5.900.000.000
1211	28/11/2023	8.875.000.000	5.350.000.000	5.900.000.000
1212	29/11/2023	8.900.000.000	5.300.000.000	5.850.000.000
1213	30/11/2023	8.975.000.000	5.275.000.000	5.850.000.000
1214	01/12/2023	8.950.000.000	5.350.000.000	5.900.000.000
1215	04/12/2023	8.925.000.000	5.500.000.000	6.000.000.000
1216	05/12/2023	8.900.000.000	5.450.000.000	5.975.000.000
1217	06/12/2023	8.800.000.000	5.425.000.000	5.800.000.000
1218	07/12/2023	8.825.000.000	5.475.000.000	5.750.000.000
1219	08/12/2023	8.750.000.000	5.375.000.000	5.700.000.000
1220	11/12/2023	8.750.000.000	5.300.000.000	5.775.000.000
1221	12/12/2023	8.700.000.000	5.325.000.000	5.800.000.000
1222	13/12/2023	8.675.000.000	5.300.000.000	5.725.000.000
1223	14/12/2023	9.050.000.000	5.550.000.000	5.950.000.000
1224	15/12/2023	9.225.000.000	5.550.000.000	5.900.000.000
1225	18/12/2023	9.200.000.000	5.500.000.000	5.925.000.000
1226	19/12/2023	9.250.000.000	5.550.000.000	5.975.000.000
1227	20/12/2023	9.300.000.000	5.550.000.000	5.925.000.000
1228	21/12/2023	9.325.000.000	5.575.000.000	5.975.000.000
1229	22/12/2023	9.325.000.000	5.675.000.000	5.975.000.000
1230	27/12/2023	9.375.000.000	5.625.000.000	6.000.000.000
1231	28/12/2023	9.400.000.000	5.725.000.000	6.125.000.000

Lampiran 2 Hasil Perhitungan *Return* Harga Saham

A. *Return* Harga Masing-masing Saham

No	Tanggal	Return BBCA	Return BBRI	Return BMRI
1	02/01/2019	0,007692308	-0,013661231	-0,006779661
2	03/01/2019	-0,011450382	0,002770104	-0,020477816
3	04/01/2019	0,004826255	0,011049732	0,038327526
4	07/01/2019	0,007684918	0	-0,003355705
5	08/01/2019	-0,000953289	0,005464449	-0,01010101
6	09/01/2019	0,002862595	0,010869574	0,030612245
7	10/01/2019	0	0,008064504	0,01650165
8	11/01/2019	-0,000951475	-0,005333302	0
9	14/01/2019	-0,00952381	0,016085767	0
10	15/01/2019	0,011538462	-0,002638542	0,012987013
11	16/01/2019	0,004752852	0	0
12	17/01/2019	0,008514664	0,007936497	0,009615385
13	18/01/2019	0,01782364	0,002624692	0
14	21/01/2019	0,022119816	-0,005235571	-0,00952381
15	22/01/2019	0,009918846	-0,007894725	-0,006410256
16	23/01/2019	-0,017857143	0	-0,035483871
17	24/01/2019	-0,007272727	0,005305008	0
18	25/01/2019	0,007326007	-0,002638542	-0,013377926
19	28/01/2019	-0,000909091	0	-0,027118644
20	29/01/2019	0,008189263	-0,02380949	-0,006968641
21	30/01/2019	-0,003610108	0,016260139	0,01754386
22	31/01/2019	0,020833333	0,026666652	0,027586207
23	01/02/2019	0	0,018181816	0,020134228
24	04/02/2019	-0,023957409	-0,005102011	-0,032894737
25	05/02/2019	0	0	0
26	06/02/2019	0,006363636	0,005128175	0,017006803
27	07/02/2019	-0,000903342	0,00255104	0,010033445
28	08/02/2019	-0,001808318	-0,010178125	0,003311258
29	11/02/2019	-0,004528986	-0,005141358	0,00660066
30	12/02/2019	-0,006369427	-0,005167997	-0,026229508
31	13/02/2019	-0,007326007	-0,015584393	-0,023569024
32	14/02/2019	-0,007380074	0,002638542	-0,010344828
33	15/02/2019	-0,003717472	-0,007894725	0
34	18/02/2019	0,02238806	0,018567636	0,013937282
35	19/02/2019	-0,018248175	0,018229163	-0,010309278

36	20/02/2019	0,022304833	-0,005115128	-0,013888889
37	21/02/2019	0,000909091	0,005141427	0,031690141
38	22/02/2019	-0,002724796	-0,002557564	-0,030716724
39	25/02/2019	0	0,015384593	0,021126761
40	26/02/2019	0,011839709	-0,005050475	0,003448276
41	27/02/2019	0,00180018	-0,017766494	-0,010309278
42	28/02/2019	-0,008984726	-0,005167997	-0,010416667
43	01/03/2019	0,004533092	0,005194844	0,007017544
44	04/03/2019	-0,000902527	0,002583999	-0,010452962
45	05/03/2019	-0,007226739	-0,005154678	-0,021126761
46	06/03/2019	-0,000909918	0,010362703	0,017985612
47	07/03/2019	0	0	0
48	08/03/2019	-0,009107468	-0,01282054	-0,024734982
49	11/03/2019	0,011948529	0,002597422	-0,007246377
50	12/03/2019	-0,000908265	-0,005181316	-0,018248175
⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮
1181	18/10/2023	-0,011173184	0	-0,025
1182	19/10/2023	-0,011299435	-0,029126214	-0,021367521
1183	20/10/2023	0,025714286	0,01	0,004366812
1184	23/10/2023	-0,013927577	-0,00990099	-0,013043478
1185	24/10/2023	-0,008474576	0,02	0,013215859
1186	25/10/2023	0,011396011	0,014705882	0,017391304
1187	26/10/2023	-0,016901408	-0,049275362	-0,025641026
1188	27/10/2023	-0,00286533	0,016260163	0
1189	30/10/2023	0,017241379	0	0,004385965
1190	31/10/2023	-0,011299435	-0,008	-0,008733624
1191	01/11/2023	-0,017142857	-0,026209677	-0,004405286
1192	02/11/2023	0,029069767	0,035196687	0,044247788
1193	03/11/2023	0,005649718	0,02	-0,012711864
1194	06/11/2023	0,016853933	0,019607843	0,017167382
1195	07/11/2023	-0,008287293	0,009615385	-0,008438819
1196	08/11/2023	0,002785515	-0,004761905	-0,004255319
1197	09/11/2023	0	-0,004784689	0,004273504
1198	10/11/2023	-0,019444444	-0,024038462	-0,017021277
1199	13/11/2023	0,005665722	-0,009852217	0,008658009
1200	14/11/2023	0,005633803	0,009950249	0

1201	15/11/2023	0,014005602	0,034482759	0,017167382
1202	16/11/2023	0,002762431	0	0
1203	17/11/2023	0	-0,004761905	-0,004219409
1204	20/11/2023	-0,022038567	0,004784689	-0,004237288
1205	21/11/2023	-0,011267606	-0,00952381	0
1206	22/11/2023	0,011396011	0,014423077	0
1207	23/11/2023	0,005633803	0,014218009	0,004255319
1208	24/11/2023	0	0,009345794	-0,004237288
1209	27/11/2023	-0,005602241	-0,009259259	0,004255319
1210	28/11/2023	0	0	0
1211	29/11/2023	0,002816901	-0,009345794	-0,008474576
1212	30/11/2023	0,008426966	-0,004716981	0
1213	01/12/2023	-0,002785515	0,014218009	0,008547009
1214	04/12/2023	-0,002793296	0,028037383	0,016949153
1215	05/12/2023	-0,00280112	-0,009090909	-0,004166667
1216	06/12/2023	-0,011235955	-0,004587156	-0,029288703
1217	07/12/2023	0,002840909	0,00921659	-0,00862069
1218	08/12/2023	-0,008498584	-0,01826484	-0,008695652
1219	11/12/2023	0	-0,013953488	0,013157895
1220	12/12/2023	-0,005714286	0,004716981	0,004329004
1221	13/12/2023	-0,002873563	-0,004694836	-0,012931034
1222	14/12/2023	0,043227666	0,047169811	0,03930131
1223	15/12/2023	0,019337017	0	-0,008403361
1224	18/12/2023	-0,002710027	-0,009009009	0,004237288
1225	19/12/2023	0,005434783	0,009090909	0,008438819
1226	20/12/2023	0,005405405	0	-0,008368201
1227	21/12/2023	0,002688172	0,004504505	0,008438819
1228	22/12/2023	0	0,01793722	0
1229	27/12/2023	0,00536193	-0,008810573	0,0041841
1230	28/12/2023	0,002666667	0,017777778	0,020833333

B. Return Harga Portofolio

No	Tanggal	Return Portofolio
1	02/01/2019	-0,004249528
2	03/01/2019	-0,009719365
3	04/01/2019	0,018067838
4	07/01/2019	0,001443071
5	08/01/2019	-0,001863283
6	09/01/2019	0,014781471
7	10/01/2019	0,008188718
8	11/01/2019	-0,002094925
9	14/01/2019	0,002187319
10	15/01/2019	0,007295644
11	16/01/2019	0,001584284
12	17/01/2019	0,008688848
13	18/01/2019	0,00681611
14	21/01/2019	0,002453478
15	22/01/2019	-0,001462045
16	23/01/2019	-0,017780338
17	24/01/2019	-0,000655906
18	25/01/2019	-0,002896821
19	28/01/2019	-0,009342578
20	29/01/2019	-0,007529623
21	30/01/2019	0,01006463
22	31/01/2019	0,025028731
23	01/02/2019	0,012772015
24	04/02/2019	-0,020651386
25	05/02/2019	0
26	06/02/2019	0,009499538
27	07/02/2019	0,003893714
28	08/02/2019	-0,002891728
29	11/02/2019	-0,001023228
30	12/02/2019	-0,012588977
31	13/02/2019	-0,015493141
32	14/02/2019	-0,005028786
33	15/02/2019	-0,003870732
34	18/02/2019	0,018297659
35	19/02/2019	-0,003442763
36	20/02/2019	0,001100272

37	21/02/2019	0,01258022
38	22/02/2019	-0,011999694
39	25/02/2019	0,012170451
40	26/02/2019	0,003412503
41	27/02/2019	-0,008758531
42	28/02/2019	-0,008189797
43	01/03/2019	0,005581827
44	04/03/2019	-0,00292383
45	05/03/2019	-0,011169392
46	06/03/2019	0,009146132
47	07/03/2019	0
48	08/03/2019	-0,01555433
49	11/03/2019	0,002433192
50	12/03/2019	-0,008112586
⋮	⋮	⋮
⋮	⋮	⋮
⋮	⋮	⋮
1120	21/07/2023	0,001508296
1121	24/07/2023	-0,006305978
1122	25/07/2023	0,007837995
1123	26/07/2023	0,010262402
1124	27/07/2023	-0,00293522
1125	28/07/2023	0,003780927
1126	31/07/2023	-0,001461988
1127	01/08/2023	-0,00141696
1128	02/08/2023	0,005689579
1129	03/08/2023	0,007659547
1130	04/08/2023	-0,012350327
1131	07/08/2023	0,017799581
1132	08/08/2023	-0,005662943
1133	09/08/2023	0,011690821
1134	10/08/2023	0,004237288
1135	11/08/2023	-0,005713377
1136	14/08/2023	-0,00036658
1137	15/08/2023	-0,014610671
1138	16/08/2023	-0,002989537
1139	18/08/2023	-0,000212305
1140	21/08/2023	-0,004301005

1141	22/08/2023	0,016239856
1142	23/08/2023	-0,004107473
1143	24/08/2023	-0,000862414
1144	25/08/2023	0,002919274
1145	28/08/2023	-2,18908E-05
1146	29/08/2023	0,002036819
1147	30/08/2023	-0,004865527
1148	31/08/2023	0,003391899
1149	01/09/2023	0,006084284
1150	04/09/2023	0,004361279
1151	05/09/2023	0
1152	06/09/2023	-0,008405231
1153	07/09/2023	-0,016204968
1154	08/09/2023	-0,006514299
1155	11/09/2023	0,006085327
1156	12/09/2023	-0,006798378
1157	13/09/2023	-0,000783803
1158	14/09/2023	0,001036982
1159	15/09/2023	-0,00101274
1160	18/09/2023	-0,004507245
1161	19/09/2023	0,011557386
1162	20/09/2023	0,006921488
1163	21/09/2023	-0,006576361
1164	22/09/2023	-0,001826484
1165	25/09/2023	-0,005870086
1166	26/09/2023	-0,012307827
1167	27/09/2023	0,003028677
1168	29/09/2023	-0,000489045
1169	02/10/2023	0,012420893
1170	03/10/2023	0,00755608
1171	04/10/2023	0,001163705
1172	05/10/2023	-0,00929089
1173	06/10/2023	-0,007278724
1174	09/10/2023	-0,00921288
1175	10/10/2023	0,004297698
1176	11/10/2023	0,007608696
1177	12/10/2023	0,009220548
1178	13/10/2023	-0,000651517

1179	16/10/2023	-0,003404989
1180	17/10/2023	-0,013226838
1181	18/10/2023	-0,012057728
1182	19/10/2023	-0,020597723
1183	20/10/2023	0,013360366
1184	23/10/2023	-0,012290682
1185	24/10/2023	0,008247094
1186	25/10/2023	0,014497733
1187	26/10/2023	-0,030605932
1188	27/10/2023	0,004464944
1189	30/10/2023	0,007209115
1190	31/10/2023	-0,009344353
1191	01/11/2023	-0,015919274
1192	02/11/2023	0,036171414
1193	03/11/2023	0,004312618
1194	06/11/2023	0,017876386
1195	07/11/2023	-0,002370242
1196	08/11/2023	-0,002077236
1197	09/11/2023	-0,000170395
1198	10/11/2023	-0,020168061
1199	13/11/2023	0,001490505
1200	14/11/2023	0,005194684
1201	15/11/2023	0,021885248
1202	16/11/2023	0,00092081
1203	17/11/2023	-0,002993771
1204	20/11/2023	-0,007163722
1205	21/11/2023	-0,006930472
1206	22/11/2023	0,008606363
1207	23/11/2023	0,00803571
1208	24/11/2023	0,001702835
1209	27/11/2023	-0,003535394
1210	28/11/2023	0
1211	29/11/2023	-0,005001156
1212	30/11/2023	0,001236662
1213	01/12/2023	0,006659834
1214	04/12/2023	0,014064413
1215	05/12/2023	-0,005352899
1216	06/12/2023	-0,015037271

1217	07/12/2023	0,001145603
1218	08/12/2023	-0,011819692
1219	11/12/2023	-0,000265198
1220	12/12/2023	0,001110567
1221	13/12/2023	-0,006833144
1222	14/12/2023	0,043232929
1223	15/12/2023	0,003644552
1224	18/12/2023	-0,002493916
1225	19/12/2023	0,007654837
1226	20/12/2023	-0,000987598
1227	21/12/2023	0,005210498
1228	22/12/2023	0,005979073
1229	27/12/2023	0,000245153
1230	28/12/2023	0,013759259

Lampiran 3 *Output Uji Distribusi Normal dengan Uji Kolmogorov Smirnov***Tabel A** Saham BBCA

Asymptotic one-sample Kolmogorov-Smirnov test

```
data: returns_BBCA$daily.returns  
D = 0.086275, p-value = 2.2e-08  
alternative hypothesis: two-sided
```

Tabel B Saham BBRI

Asymptotic one-sample Kolmogorov-Smirnov test

```
data: returns_BBRI$daily.returns  
D = 0.081416, p-value = 1.635e-07  
alternative hypothesis: two-sided
```

Tabel C Saham BMRI

Asymptotic one-sample Kolmogorov-Smirnov test

```
data: returns_BMRI$daily.returns  
D = 0.073902, p-value = 2.893e-06  
alternative hypothesis: two-sided
```

Lampiran 4 *Output* Identifikasi kestasioneran dengan uji ADF**Tabel A** Saham BBCA

Augmented Dickey-Fuller Test

```
data: returns_BBCA$daily.returns  
Dickey-Fuller = -12.222, Lag order = 10, p-value =  
0.01  
alternative hypothesis: stationary
```

Tabel B Saham BBRI

Augmented Dickey-Fuller Test

```
data: returns_BBRI$daily.returns  
Dickey-Fuller = -10.599, Lag order = 10, p-value =  
0.01  
alternative hypothesis: stationary
```

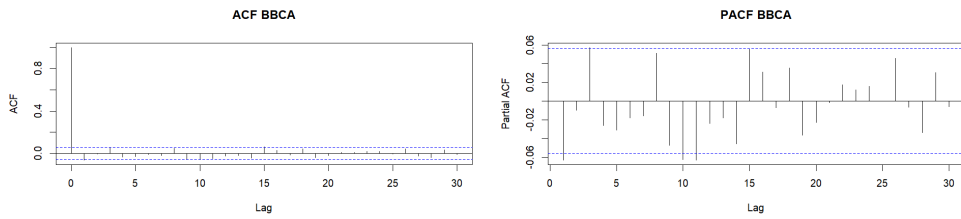
Tabel C Saham BMRI

Augmented Dickey-Fuller Test

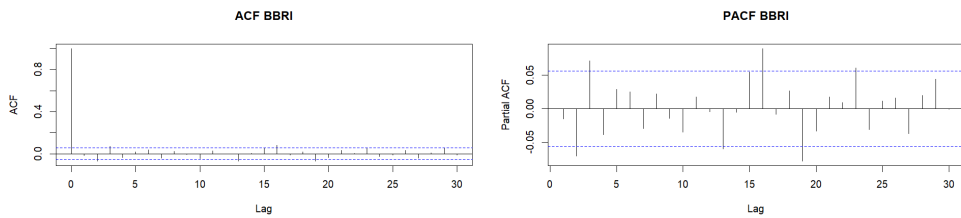
```
data: returns_BMRI$daily.returns  
Dickey-Fuller = -11.163, Lag order = 10, p-value =  
0.01  
alternative hypothesis: stationary
```


Lampiran 5 Plot ACF dan PACF

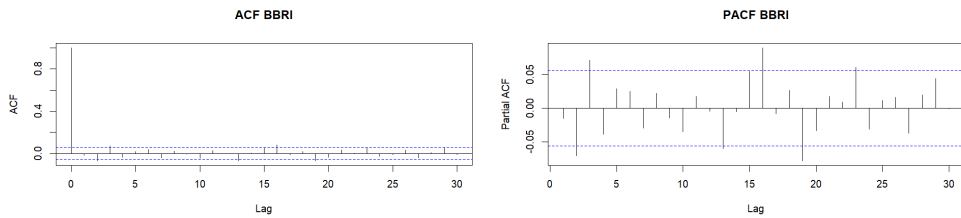
Gambar A Saham BBKA



Gambar B Saham BBRI



Gambar C Saham BMRI



Lampiran 6 Output Estimasi Parameter Model ARIMA**Tabel A** Saham BBCA, Model ARIMA (2,0,1)

z test of coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
ar1	-0.61920445	0.26790618	-2.3113	0.02082	*
ar2	-0.06465669	0.03072137	-2.1046	0.03532	*
ma1	0.55507369	0.26696556	2.0792	0.03760	*
intercept	0.00047322	0.00040487	1.1688	0.24247	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1					

Tabel B Saham BBCA, Model ARIMA (2,0,2)

z test of coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
ar1	0.26501214	0.02398966	11.047	<2e-16	***
ar2	-0.96014999	0.01305439	-73.550	<2e-16	***
ma1	-0.29456727	0.01346614	-21.875	<2e-16	***
ma2	0.99009798	0.01488386	66.522	<2e-16	***
intercept	0.00046603	0.00043513	1.071	0.2842	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1					

Tabel C Saham BBRI, Model ARIMA (1,0,2)

z test of coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
ar1	-0.49221202	0.15230182	-3.2318	0.001230	**
ma1	0.48498173	0.15175807	3.1958	0.001395	**
ma2	-0.08728183	0.02848302	-3.0643	0.002181	**
intercept	0.00044087	0.00053951	0.8172	0.413832	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1					

Tabel D Saham BBRI, Model ARIMA (2,0,1)

z test of coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
ar1	-0.57808726	0.13762713	-4.2004	2.665e-05	***
ar2	-0.09282969	0.02930590	-3.1676	0.001537	**
ma1	0.56710308	0.13615475	4.1651	3.112e-05	***
intercept	0.00043895	0.00054001	0.8129	0.416304	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1					

Tabel E Saham BBRI, Model ARIMA (2,0,2)

z test of coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
ar1	-1.12265538	0.19085073	-5.8824	4.044e-09	***
ar2	-0.65639807	0.13833311	-4.7451	2.085e-06	***
ma1	1.12071005	0.20634845	5.4312	5.599e-08	***
ma2	0.58856553	0.15742646	3.7387	0.000185	***
intercept	0.00042917	0.00056020	0.7661	0.443620	

 Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Tabel F Saham BMRI, Model ARIMA (1,0,2)

z test of coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
ar1	-0.53673461	0.20817541	-2.5783	0.009929	**
ma1	0.53911136	0.20840376	2.5869	0.009685	**
ma2	-0.07164219	0.03157238	-2.2691	0.023260	*
intercept	0.00042068	0.00056974	0.7384	0.460295	

 Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Tabel G Saham BMRI, Model ARIMA (2,0,1)

z test of coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
ar1	-0.60593582	0.18841040	-3.2160	0.001300	**
ar2	-0.06974748	0.03068215	-2.2732	0.023013	*
ma1	0.60877362	0.18762501	3.2446	0.001176	**
intercept	0.00040479	0.00057280	0.7067	0.479761	

 Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Lampiran 7 *Output Hasil Uji Ljung-Box*

	Symbol	Statistic	P.Value
BBCA	(2,0,1)	6.688490e-03	0.9348191
BBCA	(2,0,2)	1.585882e+00	0.2079155
BBRI	(1,0,2)	4.528010e-03	0.9463504
BBRI	(2,0,1)	5.994053e-03	0.9382884
BBRI	(2,0,2)	2.518680e-02	0.8739025
BMRI	(1,0,2)	1.699756e-05	0.9967105
BMRI	(2,0,1)	9.074726e-05	0.9923994

Lampiran 8 *Output* nilai AIC untuk setiap model

	Model	AIC
BBCA	(2, 0, 1)	-6780.701
BBCA	(2, 0, 2)	-6795.272
BBRI	(1, 0, 2)	-6105.994
BBRI	(2, 0, 1)	-6106.872
BBRI	(2, 0, 2)	-6109.412
BMRI	(1, 0, 2)	-6018.913
BMRI	(2, 0, 1)	-6018.903

Lampiran 9 *Output Uji ARCH untuk Residual Saham***Tabel A** Saham BBKA

ARCH LM-test; Null hypothesis: no ARCH effects

data: residuals

Chi-squared = 116.13, df = 12, p-value < 2.2e-16

Tabel B Saham BBRI

ARCH LM-test; Null hypothesis: no ARCH effects

data: residuals

Chi-squared = 233.12, df = 12, p-value < 2.2e-16

Tabel C Saham BMRI

ARCH LM-test; Null hypothesis: no ARCH effects

data: residuals

Chi-squared = 378.1, df = 12, p-value < 2.2e-16

Lampiran 10 *Output Uji Kendall's Tau***Tabel A** Saham BBKA-BBRI

Kendall's rank correlation tau

data: residuals_BBKA and residuals_BBRI
z = 15.586, p-value < 2.2e-16
alternative hypothesis: true tau is not equal to 0
sample estimates:
tau
0.2965782

Tabel B Saham BBKA-BMRI

Kendall's rank correlation tau

data: residuals_BBKA and residuals_BMRI
z = 15.054, p-value < 2.2e-16
alternative hypothesis: true tau is not equal to 0
sample estimates:
tau
0.2864576

Tabel C Saham BBRI-BMRI

Kendall's rank correlation tau

data: residuals_BBRI and residuals_BMRI
z = 19.988, p-value < 2.2e-16
alternative hypothesis: true tau is not equal to 0
sample estimates:
tau
0.3803412

Lampiran 11 *Output Estimasi Struktur C-Vine Copula***Tabel A** *Gaussian Copula*

tree	edge	family	cop	par	par2	tau	utd	ltd
1	2,1	1	N	0.48	0.00	0.32	-	-
	3,2	1	N	0.60	0.00	0.41	-	-
2	3,1;2	1	N	0.29	0.00	0.19	-	-
type: C-vine		logLik: 479.61		AIC: -953.21		BIC: -937.86		
1 <-> BBKA,		2 <-> BBRI,		3 <-> BMRI				

Tabel B *t Copula*

tree	edge	family	cop	par	par2	tau	utd	ltd
1	2,1	2	t	0.46	3.38	0.31	0.27	0.27
	3,2	2	t	0.57	3.62	0.39	0.32	0.32
2	3,1;2	2	t	0.28	12.73	0.18	0.01	0.01
type: C-vine		logLik: 541.92		AIC: -1071.84		BIC: -1041.14		
1 <-> BBKA,		2 <-> BBRI,		3 <-> BMRI				

Tabel C *Clayton Copula*

tree	edge	family	cop	par	par2	tau	utd	ltd
1	2,1	3	C	0.75	0.00	0.27	-	0.40
	3,2	3	C	1.04	0.00	0.34	-	0.51
2	3,1;2	13	SC	0.48	0.00	0.19	0.23	-
type: C-vine		logLik: 464.35		AIC: -922.71		BIC: -907.36		
1 <-> BBKA,		2 <-> BBRI,		3 <-> BMRI				

Tabel D *Gumbel Copula*

tree	edge	family	cop	par	par2	tau	utd	ltd
1	2,1	14	SG	1.46	0.00	0.32	-	0.39
	3,2	14	SG	1.65	0.00	0.39	-	0.48
2	3,1;2	4	G	1.22	0.00	0.18	0.23	-
type: C-vine		logLik: 515.19		AIC: -1024.38		BIC: -1009.03		
1 <-> BBKA,		2 <-> BBRI,		3 <-> BMRI				

Tabel E *Frank Copula*

tree	edge	family	cop	par	par2	tau	utd	ltd
1	2,1	5	F	3.08	0.00	0.31	-	-
	3,2	5	F	4.00	0.00	0.39	-	-
2	3,1;2	5	F	1.82	0.00	0.20	-	-
type: C-vine		logLik: 408.74		AIC: -811.49		BIC: -796.1		
4								
1 <-> BBKA, 2 <-> BBRI, 3 <-> BM								