

Appendix A : Outliers

First I measure the cook's distance of my models. Observations that have a cook's distance greater than 4 times the mean are considered as influential and are summarized in figures 1, 2 and 3.

X	Companies	Year	Ticker	Date	Ra	Beta
90	90	128	2015 DVN	2015-12-01	-0.35634138	0.7596914
678	678	32	2015 APA	2015-12-01	-0.10067229	1.2032293
882	882	389	2015 WYN	2015-12-01	-0.04402664	1.7951948
888	888	390	2015 XEC	2015-12-01	-0.28639472	0.4022602
AlphaJensen	ROA	TobinsQ	ROE	EnergyProductivity	CarbonProductivity	90
-0.339956073	-0.39	0.84	-1.01	0.00	0.08	678
-0.074662210	-0.72	0.93	-1.62	0.00	0.04	882
-0.005170913	0.06	1.40	0.60	0.08	0.09	888
-0.277765675	-0.36	1.97	-0.66	0.00	0.02	WaterProductivity
WasteProductivity	SustainabilityPayLink	90	0.08	0.00	1	678
0.00	1	882	0.05	0.04	1	888
0.00	0.00	0	SustainableThemedCommitment	AuditScore	FirmSize	Leverage
NetMargin	90	1	1	10.47	1.72	0.08
678	0	1	10.28	3.54	-3.63	882
1	1	9.99	5.22	8.62	888	0
0	9.72	0.53	-1.66	Industry	90	3
678	3	882	1	888	3	X
Companies	Year	Ticker	Date	Ra	Beta	175
175	156	2013	FNMA	2013-12-01	0.127380439	3.5172763
176	176	156	2014	FNMA	2014-12-01	-0.169292057
3.5172763	177	177	156	2015	FNMA	2015-12-01
-0.242467824	3.5172763	193	193	161	2013	GILD
2013-12-01	0.003869318	0.4916288	232	232	174	2013
HIG	2013-12-01	0.016699218	1.7347533	370	370	22
2013	ALL	2013-12-01	0.004962791	0.8037314	AlphaJensen	ROA
TobinsQ	ROE	EnergyProductivity	CarbonProductivity	175	0.028544976	0.03
1.03	-0.73	0.00	0.00	176	-0.167181691	0.00
1.03	-0.11	0.00	0.00	177	-0.166242929	0.00
1.03	-0.08	0.00	0.00	193	-0.009945452	0.14
5.25	0.28	0.88	0.83	232	-0.032047350	0.00
0.05	0.01	0.12	0.29	370	-0.017622060	0.09
0.19	0.11	0.19	0.21	WaterProductivity	WasteProductivity	SustainabilityPayLink
175	0.00	0.00	0	176	0.00	0.00
0	177	0.00	0.00	0	193	0.00
0	232	0.04	0.00	1	370	0.31
0.72	0	SustainableThemedCommitment	AuditScore	FirmSize	Leverage	NetMargin
175	0	0	12.51	339.01	-0.05	176
0	0	12.51	875.59	-0.05	177	0
0	12.51	793.47	-0.01	193	0	0
10.35	0.35	0.27	232	1	1	11.44
0.33	0.01	370	1	1	11.09	0.03
0.16	Industry	175	4	176	4	177
4	193	5	232	4	370	4
X	Companies	Year	Ticker	Date	Ra	Beta
43	43	111	2013	DAL	2013-12-01	-0.053511418
0.5077983	175	175	156	2013	FNMA	2013-12-01
0.127380439	3.5172763	176	176	156	2014	FNMA
2014-12-01	-0.169292057	3.5172763	177	177	156	2015
FNMA	2015-12-01	-0.242467824	3.5172763	336	336	207
2015	KMB	2015-12-01	0.073454769	0.3380209	360	360
215	2015	LB	2015-12-01	0.004287896	1.4092611	AlphaJensen
ROA	TobinsQ	ROE	EnergyProductivity	CarbonProductivity	43	-0.06778055
0.22	NA	2.22	0.12	0.30	175	0.02854498
0.03	1.03	-0.73	0.00	0.00	176	-0.16718169
0.00	1.03	-0.11	0.00	0.00	177	-0.16624293
0.00	1.03	-0.08	0.00	0.00	336	0.08068982
0.11	3.57	3.65	0.03	0.02	360	0.03476886
0.11	4.00	-2.54	0.00	0.06	WaterProductivity	WasteProductivity
SustainabilityPayLink	43	0.89	0.77	1	175	0.00
0.00	0	176	0.00	0.00	0	177
0.00	0	336	0.02	0.01	1	360
0.00	0.00	1	SustainableThemedCommitment	AuditScore	FirmSize	Leverage
NetMargin	43	1	1	10.72	0.84	0.28
175	0	0	12.51	339.01	-0.05	176
0	0	12.51	875.59	-0.05	177	0
0	12.51	793.47	-0.01	336	1	1
10.17	8.57	0.19	360	0	1	9.90
-8.76	0.07	Industry	43	6	175	4
176	4	177	4	336	2	360
1	X	Companies	Year	Ticker	Date	Ra
Beta	AlphaJensen	90	90	128	2015	DVN
2015-12-01	-0.35634138	0.7596914	-0.33995607	148	148	147
2013	F	2013-12-01	-0.10159447	1.5436844	-0.14497201	175
175	156	2013	FNMA	2013-12-01	0.12738044	3.5172763
0.02854498	176	176	156	2014	FNMA	2014-12-01
-0.16929206	3.5172763	-0.16718169	177	177	156	2015
FNMA	2015-12-01	-0.24246782	3.5172763	-0.16624293	380	380
222	2014	LNG	2014-12-01	0.06469011	1.3808854	0.06551864
ROA	TobinsQ	ROE	EnergyProductivity	CarbonProductivity	90	-0.39
0.84	-1.01	0.00	0.08	148	0.04	0.40
0.34	0.57	0.35	175	0.03	1.03	-0.73
0.00	0.00	176	0.00	1.03	-0.11	0.00
0.00	177	0.00	1.03	-0.08	0.00	0.00
380	-0.05	1.94	3.55	0.00	0.00	WaterProductivity
WasteProductivity	SustainabilityPayLink	90	0.08	0.00	1	148
0.70	0.65	1	175	0.00	0.00	0
176	0.00	0.00	0	177	0.00	0.00
0	380	0.00	0.00	0	SustainableThemedCommitment	AuditScore
FirmSize	Leverage	NetMargin	90	1	1	10.47
1.72	0.08	148	1	0	11.31	4.35
0.05	175	0	0	12.51	339.01	-0.05
176	0	0	12.51	875.59	-0.05	177
0	0	12.51	793.47	-0.01	380	0
0	10.10	-59.73	-2.04	Industry	90	3
148	1	175	4	176	4	177
4	380	3	X	Companies	Year	Ticker
Date	Ra	Beta	175	175	156	2013
FNMA	2013-12-01	0.127380439	3.51727627	177	177	156
2015	FNMA	2015-12-01	-0.242467824	3.51727627	256	256
183	2013	HUM	2013-12-01	-0.004820705	0.08186063	310
310	310	20	2013	AIG	2013-12-01	0.027808828
2.31086883	379	379	222	2013	LNG	2013-12-01
0.085410342	1.38088538	381	381	222	2015	LNG
2015-12-01	-0.244129823	1.38088538	AlphaJensen	ROA	TobinsQ	ROE
EnergyProductivity	CarbonProductivity	175	0.028544976	0.03	1.03	-0.73
0.00	0.00	177	-0.166242929	0.00	1.03	-0.08
0.00	0.00	256	-0.007120989	0.06	0.70	0.13
0.87	0.66	310	-0.037126586	0.10	NA	0.12
0.00	0.00	379	0.046607463	-0.07	1.60	-1.47
0.00	0.00	381	-0.214264610	-0.06	1.28	2.17
0.00	0.01	WaterProductivity	WasteProductivity	SustainabilityPayLink	175	0
0.00	0	177	0	0.00	0	256
0	0.61	0	310	0	0.00	0
379	0	0.00	0	381	0	0.00
0	0	SustainableThemedCommitment	AuditScore	FirmSize	Leverage	NetMargin

175 0 0 12.51 339.01 -0.05 177 0 0 12.51 793.47 -0.01 256 1 0 10.32 0.28 0.03 310 1 0 11.73 0.41 0.19 379 0 0
9.99 36.60 -1.90 381 0 0 10.27 -18.40 -3.60 Industry 175 4 177 4 256 5 310 4 379 3 381 3

Figure 1: Observations considered as outliers in model 1 (i.e. Roa)

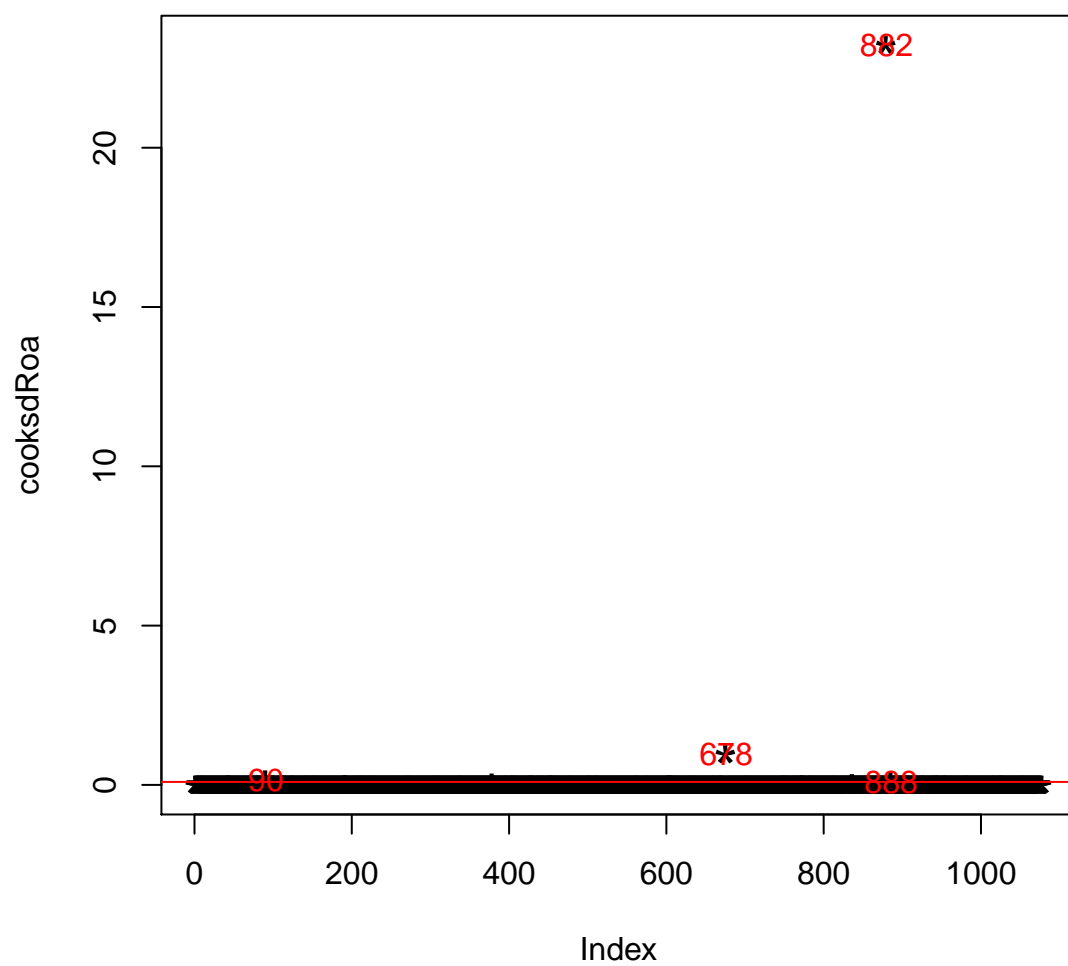


Table 1: Model 1 - Energy

	<i>Dependent variable:</i>	
	ROA	
	(1)	(2)
SustainabilityPayLink	0.0004 (0.004)	0.002 (0.003)
SustainableThemedCommitment	0.008 (0.005)	0.012*** (0.004)
AuditScore	-0.004 (0.005)	-0.002 (0.004)
CarbonProductivity	-0.024 (0.017)	-0.009 (0.012)
EnergyProductivity	0.014 (0.015)	-0.004 (0.010)
WaterProductivity	0.031** (0.012)	0.024*** (0.008)
WasteProductivity	0.004 (0.012)	0.005 (0.008)
Leverage	0.00000 (0.00004)	-0.00001 (0.00003)
NetMargin	0.055*** (0.004)	0.156*** (0.008)
FirmSize	-0.029*** (0.005)	-0.037*** (0.004)
Industry	-0.003*** (0.001)	-0.003*** (0.001)
AlphaJensen	0.116*** (0.024)	0.0002 (0.017)
Constant	0.367*** (0.047)	0.437*** (0.041)
Observations	1,077	1,073
R ²	0.195	0.317
Adjusted R ²	0.186	0.309
F Statistic	21.519*** (df = 12; 1064)	40.965*** (df = 12; 1060)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 2: Model 1 - No Energy

	<i>Dependent variable:</i>	
	ROA	
	(1)	(2)
SustainabilityPayLink	0.0001 (0.004)	0.002 (0.003)
SustainableThemedCommitment	0.008 (0.005)	0.012*** (0.004)
AuditScore	-0.004 (0.005)	-0.002 (0.004)
CarbonProductivity	-0.012 (0.011)	-0.013* (0.007)
WaterProductivity	0.033*** (0.012)	0.023*** (0.008)
WasteProductivity	0.002 (0.012)	0.006 (0.008)
Leverage	0.00000 (0.00004)	-0.00001 (0.00003)
NetMargin	0.055*** (0.004)	0.156*** (0.008)
FirmSize	-0.029*** (0.005)	-0.037*** (0.004)
Industry	-0.003*** (0.001)	-0.003*** (0.001)
AlphaJensen	0.115*** (0.024)	0.0005 (0.017)
Constant	0.369*** (0.047)	0.436*** (0.041)
Observations	1,077	1,073
R ²	0.195	0.317
Adjusted R ²	0.186	0.310
F Statistic	23.406*** (df = 11; 1065)	44.703*** (df = 11; 1061)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 3: Model 1 - Short Version

	<i>Dependent variable:</i>
	ROA
SustainabilityPayLink	0.001 (0.003)
SustainableThemedCommitment	0.012*** (0.004)
AuditScore	-0.002 (0.004)
Leverage	-0.00001 (0.00003)
NetMargin	0.158*** (0.008)
FirmSize	-0.037*** (0.004)
Industry	-0.003*** (0.001)
AlphaJensen	-0.002 (0.017)
Constant	0.436*** (0.041)
Observations	1,073
R ²	0.307
Adjusted R ²	0.302
F Statistic	58.926*** (df = 8; 1064)
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

Table 4: Model 1 - Short Version

	<i>Dependent variable:</i>
	ROA
CarbonProductivity	−0.015** (0.007)
WaterProductivity	0.023*** (0.008)
WasteProductivity	0.005 (0.008)
Leverage	−0.00002 (0.00003)
NetMargin	0.155*** (0.008)
FirmSize	−0.034*** (0.004)
Industry	−0.003*** (0.001)
AlphaJensen	0.002 (0.017)
Constant	0.418*** (0.040)
Observations	1,073
R ²	0.310
Adjusted R ²	0.304
F Statistic	59.641*** (df = 8; 1064)
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01

Table 5: Model 2 - Comparaison with and without outliers

	<i>Dependent variable:</i>	
	log(TobinsQ)	
	(1)	(2)
SustainabilityPayLink	0.042* (0.024)	0.033 (0.025)
SustainableThemedCommitment	0.059* (0.034)	0.078** (0.035)
AuditScore	0.069** (0.034)	0.075** (0.035)
CarbonProductivity	-0.033 (0.053)	-0.056 (0.056)
WaterProductivity	0.067 (0.059)	0.085 (0.062)
WasteProductivity	-0.160*** (0.058)	-0.174*** (0.062)
Leverage	0.0001 (0.0002)	-0.001 (0.002)
NetMargin	-0.003 (0.021)	0.035 (0.058)
FirmSize	-0.977*** (0.050)	-1.022*** (0.051)
Industry	-0.026** (0.012)	-0.027** (0.012)
AlphaJensen	0.696*** (0.122)	0.687*** (0.128)
Constant	10.416*** (0.523)	10.874*** (0.529)
Observations	1,002	979
R ²	0.304	0.322
Adjusted R ²	0.296	0.314
F Statistic	39.313*** (df = 11; 990)	41.707*** (df = 11; 967)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 6: Model 3 - Comparaison with and without outliers

	<i>Dependent variable:</i>	
	ROE	
	(1)	(2)
SustainabilityPayLink	0.007 (0.030)	0.009 (0.016)
SustainableThemedCommitment	0.141*** (0.036)	0.067*** (0.021)
AuditScore	0.007 (0.036)	−0.001 (0.020)
CarbonProductivity	−0.103 (0.071)	−0.058 (0.038)
WaterProductivity	0.086 (0.080)	0.047 (0.043)
WasteProductivity	0.075 (0.079)	0.010 (0.042)
Leverage	0.003*** (0.0003)	−0.008*** (0.001)
NetMargin	0.109*** (0.029)	0.513*** (0.044)
FirmSize	−0.114*** (0.032)	−0.060*** (0.019)
Industry	−0.004 (0.007)	−0.002 (0.004)
AlphaJensen	0.308* (0.162)	0.136 (0.088)
Constant	1.298*** (0.328)	0.724*** (0.197)
Observations	1,077	1,061
R ²	0.135	0.158
Adjusted R ²	0.126	0.149
F Statistic	15.072*** (df = 11; 1065)	17.894*** (df = 11; 1049)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 7: Model 4 - Comparaison with and without outliers

	<i>Dependent variable:</i>	
	AlphaJensen	
	(1)	(2)
SustainabilityPayLink	−0.0002 (0.004)	−0.001 (0.004)
SustainableThemedCommitment	0.002 (0.004)	0.003 (0.004)
AuditScore	0.003 (0.004)	0.003 (0.004)
CarbonProductivity	−0.006 (0.012)	−0.010 (0.011)
WaterProductivity	−0.004 (0.014)	−0.0005 (0.012)
WasteProductivity	0.002 (0.014)	−0.003 (0.012)
Leverage	−0.0001*** (0.00004)	−0.0002 (0.0003)
NetMargin	0.016*** (0.005)	0.023*** (0.008)
FirmSize	−0.002 (0.003)	−0.002 (0.003)
Industry	0.001* (0.001)	0.0004 (0.001)
Beta	−0.008** (0.003)	−0.006** (0.003)
Constant	0.025 (0.031)	0.027 (0.027)
Observations	1,077	1,059
R ²	0.032	0.017
Adjusted R ²	0.022	0.007
F Statistic	3.160*** (df = 11; 1065)	1.656* (df = 11; 1047)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 8: Model 5 - Comparaison with and without outliers

	<i>Dependent variable:</i>	
	Ra	
	(1)	(2)
SustainabilityPayLink	−0.007*** (0.001)	−0.006*** (0.001)
SustainableThemedCommitment	−0.002 (0.001)	−0.003* (0.001)
AuditScore	−0.005*** (0.001)	−0.006*** (0.001)
CarbonProductivity	0.042*** (0.004)	0.046*** (0.004)
WaterProductivity	0.015*** (0.005)	0.009* (0.005)
WasteProductivity	0.014*** (0.005)	0.017*** (0.005)
Leverage	−0.00001 (0.00001)	−0.00000 (0.00002)
NetMargin	−0.001 (0.002)	0.003 (0.004)
FirmSize	0.001 (0.001)	0.001 (0.001)
Industry	−0.0001 (0.0002)	−0.0001 (0.0002)
AlphaJensen	1.014*** (0.011)	1.008*** (0.011)
Constant	−0.013 (0.011)	−0.008 (0.011)
Observations	1,077	1,062
R ²	0.893	0.892
Adjusted R ²	0.891	0.891
F Statistic	804.284*** (df = 11; 1065)	790.402*** (df = 11; 1050)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 9: Hausman Test PValue

Model	P-Value
Model 1 without outliers	0.0273
Model 2 without outliers	1
Model 3 without outliers	0
Model 4 without outliers	0.8568
Model 5 without outliers	0

Table 10: Fixed Effect Model - NoOutlier NoEnergy (1/2)

	<i>Dependent variable:</i>		
	ROA (1)	log(TobinsQ) (2)	ROE (3)
SustainabilityPayLink	0.001 (0.004)	0.029 (0.026)	-0.007 (0.019)
SustainableThemedCommitment	0.019*** (0.006)	0.069* (0.039)	0.051* (0.029)
AuditScore	-0.001 (0.006)	0.048 (0.039)	-0.010 (0.029)
CarbonProductivity	-0.015** (0.008)	-0.063 (0.056)	-0.088** (0.040)
WaterProductivity	0.022*** (0.008)	0.075 (0.061)	0.050 (0.044)
WasteProductivity	0.007 (0.008)	-0.178*** (0.062)	-0.001 (0.043)
Leverage	-0.00003 (0.00003)	-0.002 (0.002)	-0.009*** (0.002)
NetMargin	0.169*** (0.009)	0.029 (0.061)	0.508*** (0.048)
FirmSize	-0.025*** (0.008)	-0.856*** (0.094)	-0.045 (0.042)
AlphaJensen	-0.003 (0.017)	0.661*** (0.127)	0.137 (0.090)
Observations	1,073	979	1,061
R ²	0.343	0.179	0.184
Adjusted R ²	-0.001	-0.267	-0.245
F Statistic	36.726*** (df = 10; 704)	13.805*** (df = 10; 634)	15.668*** (df = 10; 695)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 11: Fixed Effect Model - NoOutlier NoEnergy (2/2)

	<i>Dependent variable:</i>	
	AlphaJensen	Ra
	(1)	(2)
SustainabilityPayLink	−0.001 (0.007)	−0.010*** (0.003)
SustainableThemedCommitment	0.008 (0.011)	−0.007 (0.005)
AuditScore	−0.002 (0.011)	−0.024*** (0.005)
CarbonProductivity	−0.007 (0.015)	0.056*** (0.007)
WaterProductivity	−0.002 (0.017)	0.008 (0.008)
WasteProductivity	−0.008 (0.016)	0.018** (0.007)
Leverage	−0.001* (0.001)	0.0001 (0.0004)
NetMargin	0.017 (0.014)	0.014* (0.008)
FirmSize	0.014 (0.016)	−0.020*** (0.007)
AlphaJensen		1.015*** (0.015)
Observations	1,059	1,062
R ²	0.013	0.877
Adjusted R ²	−0.509	0.812
F Statistic	1.013 (df = 9; 692)	493.793*** (df = 10; 693)
<i>Note:</i>		*p<0.1; **p<0.05; ***p<0.01

Figure 2: Observations considered as outliers in model 2 (i.e. Tobin's Q)

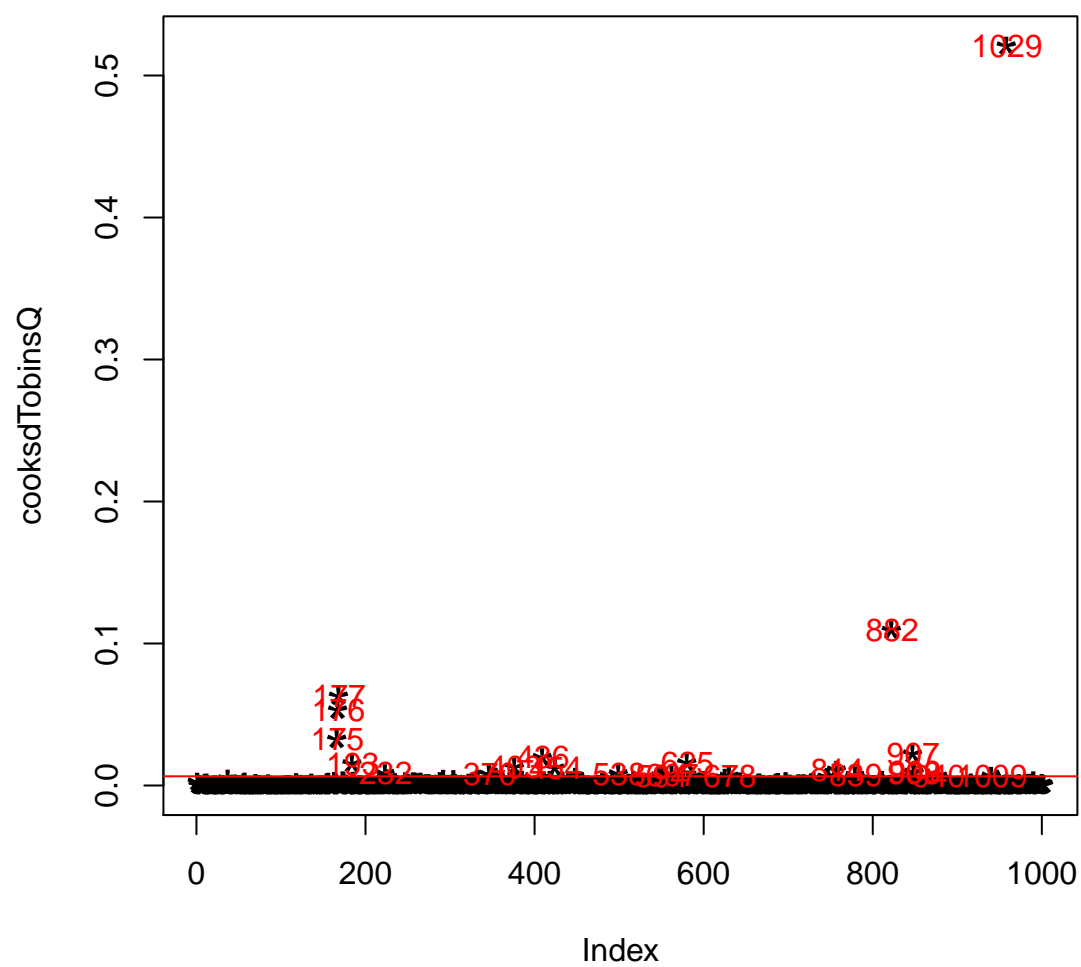


Figure 3: Observations considered as outliers in model 1 (i.e. Roe)

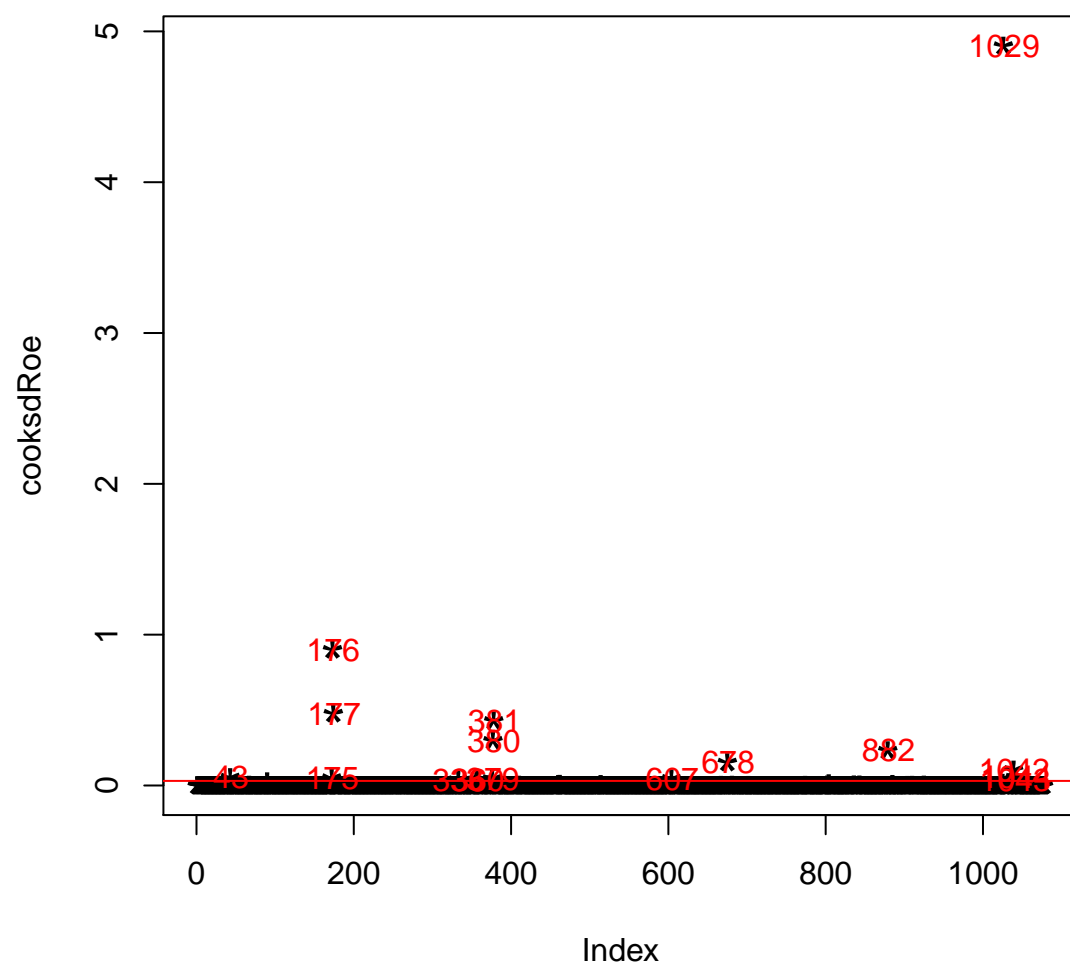


Figure 4: Observations considered as outliers in model 4 (i.e. Jensen's Alpha)

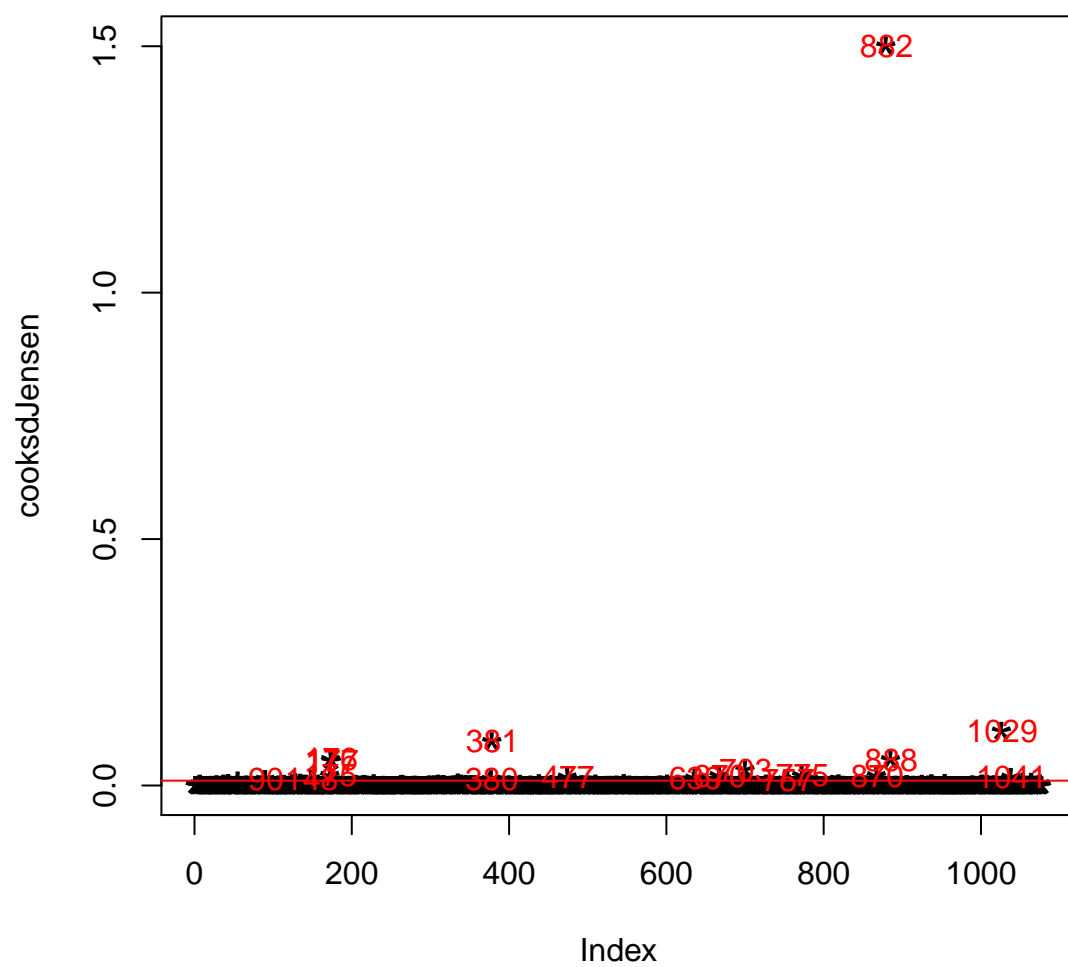


Figure 5: Observations considered as outliers in model 5 (i.e.Compounded Returns)

