## 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.

```
Companies Year        Ra    ROA    ROE TobinsQ AlphaJensen
```

87 128 2015 -0.35634138 -0.39 -1.01 0.84 -0.31495564 695 32 2015 -0.10067229 -0.72 -1.62 0.93 -0.07101781 906 389 2015 -0.04402664 0.06 0.60 1.40 -0.01423819 CarbonProductivity WaterProductivity WasteProductivity 87 0.08 0.08 0.00 695 0.04 0.00 0.00 906 0.09 0.05 0.04 EnergyProductivity SustainabilityPayLink SustainableThemedCommitment 87 0.00 1 1 695 0.00 1 0 906 0.08 1 1 AuditScore FirmSize Leverage NetMargin Industry Beta 87 1 10.47 1.72 0.08 3 1.911785 695 1 10.28 3.54 -3.63 3 1.371174 906 1 9.99 5.22 8.62 1 1.377348 Companies Year Ra ROA ROE TobinsQ AlphaJensen 175 156 2013 0.127380439 0.03 -0.73 1.03 -0.10124740 176 156 2014 -0.169292057 0.00 -0.11 1.03 -0.16753157 177 156 2015 -0.242467824 0.00 -0.08 1.03 -0.21502220 193 161 2013 0.003869318 0.14 0.28 5.25 -0.05460717 235 174 2013 0.016699218 0.00 0.01 0.05 -0.01584460 339 208 2015 -0.457272090 0.07 0.01 0.91 -0.43264394 CarbonProductivity WaterProductivity WasteProductivity 175 0.00 0.00 0 176 0.00 0.00 0 177 0.00 0.00 0 193 0.83 0.00 0 235 0.29 0.04 0 339 0.01 0.00 0 EnergyProductivity SustainabilityPayLink SustainableThemedCommitment 175 0.00 0 0 176 0.00 0 0 177 0.00 0 0 193 0.88 0 0 235 0.12 1 1 339 0.00 0 0 AuditScore FirmSize Leverage NetMargin Industry Beta 175 0 12.51 339.01 -0.05 4 8.136222 176 0 12.51 875.59 -0.05 4 2.934143 177 0 12.51 793.47 -0.01 4 1.269384 193 0 10.35 0.35 0.27 5 2.081014 235 1 11.44 0.33 0.01 4 1.158143 339 0 10.92 1.21 0.05 3 1.139546 Companies Year Ra ROA ROE TobinsQ AlphaJensen 40 111 2013 -0.053511418 0.22 2.22 NA -0.120841296 175 156 2013 0.127380439 0.03 -0.73 1.03 -0.101247399 176 156 2014 -0.169292057 0.00 -0.11 1.03 -0.167531570 177 156 2015 -0.242467824 0.00 -0.08 1.03 -0.215022198 336 207 2015 0.073454769 0.11 3.65 3.57 0.091583025 363 215 2015 0.004287896 0.11 -2.54 4.00 0.009278811 CarbonProductivity WaterProductivity WasteProductivity 40 0.30 0.89 0.77 175 0.00 0.00 0.00 176 0.00 0.00 0.00 177 0.00 0.00 0.00 336 0.02 0.02 0.01 363 0.06 0.00 0.00 EnergyProductivity SustainabilityPayLink SustainableThemedCommitment 40 0.12 1 1 175 0.00 0 0 176 0.00 0 0 177 0.00 0 0 336 0.03 1 1 363 0.00 1 0 AuditScore FirmSize Leverage NetMargin Industry Beta 40 1 10.72 0.84 0.28 6 2.3960811 175 0 12.51 339.01 -0.05 4 8.1362220 176 0 12.51 875.59 -0.05 4 2.9341434 177 0 12.51 793.47 -0.01 4 1.2693837 336 1 10.17 8.57 0.19 2 0.8400118 363 1 9.90 -8.76 0.07 1 0.2346044 Companies Year Ra ROA ROE TobinsQ AlphaJensen 40 111 2013 -0.05351142 0.22 2.22 NA -0.1208413 52 116 2013 -0.12946070 0.09 0.21 1.18 -0.1288045 87 128 2015 -0.35634138 -0.39 -1.01 0.84 -0.3149556 145 147 2013 -0.10159427 0.04 0.34 0.40 -0.1306005 175 156 2013 0.12738044 0.03 -0.73 1.03 -0.1012474 177 156 2015 -0.24246782 0.00 -0.08 1.03 -0.2150222 CarbonProductivity WaterProductivity WasteProductivity 40 0.30 0.89 0.77 52 0.25 0.48 0.14 87 0.08 0.08 0.00 145 0.35 0.70 0.65 175 0.00 0.00 0.00 177 0.00 0.00 0.00 EnergyProductivity SustainabilityPayLink SustainableThemedCommitment 40 0.12 1 1 52 0.18 1 1 87 0.00 1 1 145 0.57 1 1 175 0.00 0 0 177 0.00 0 0 AuditScore FirmSize Leverage NetMargin Industry Beta 40 1 10.72 0.84 0.28 6 2.39608109 52 0 9.95 0.79 0.12 5 -0.02335071 87 1 10.47 1.72 0.08 3 1.91178492 145 0 11.31 4.35 0.05 1 1.03225025 175 0 12.51 339.01 -0.05 4 8.13622199 177 0 12.51 793.47 -0.01 4 1.26938370 Companies Year Ra ROA ROE TobinsQ AlphaJensen 40 111 2013 -0.05351142 0.22 2.22 NA -0.12084130 139 145 2013 0.08959874 0.03 0.11 1.47 0.10163216 175 156 2013 0.12738044 0.03 -0.73 1.03 -0.10124740 176 156 2014 -0.16929206 0.00 -0.11 1.03 -0.16753157 177 156 2015 -0.24246782 0.00 -0.08 1.03 -0.21502220 307 2 2013 0.07267722 0.08 0.28 0.36 -0.03982472 CarbonProductivity WaterProductivity WasteProductivity 40 0.30 0.89 0.77 139 0.79 0.00 0.00 175 0.00 0.00 0.00 176 0.00 0.00 0.00 177 0.00 0.00 0.00 307 0.14 0.16 0.23 EnergyProductivity SustainabilityPayLink SustainableThemedCommitment 40 0.12 1 1 139 0.97 0 0 175 0.00 0 0 176 0.00 0 0 177 0.00 0 0 307 0.05 1 1 AuditScore FirmSize Leverage NetMargin Industry Beta 40 1 10.72 0.84 0.28 6 2.3960811 139 0 9.89 0.58 0.05 1 -0.4282355 175 0 12.51 339.01 -0.05 4 8.1362220 176 0 12.51 875.59 -0.05 4 2.9341434 177 0 12.51 793.47 -0.01 4 1.2693837 307 0 10.63 0.69 0.06 6 4.0036277

Table 1: Model 1 - Energy

| | Dependent variable: | |
|---|---|---|
| | ROA | |
| | (1) | (2) |
| SustainabilityPayLink | −0.001 | 0.002 |
| | (0.004) | (0.003) |
| SustainableThemedCommitment | 0.009 | 0.012*** |
| | (0.005) | (0.004) |
| AuditScore | −0.004 | −0.002 |
| | (0.005) | (0.004) |
| CarbonProductivity | −0.025 | −0.009 |
| | (0.017) | (0.012) |
| EnergyProductivity | 0.012 | −0.004 |
| | (0.014) | (0.010) |
| WaterProductivity | 0.032*** | 0.023*** |
| | (0.012) | (0.008) |
| WasteProductivity | 0.004 | 0.005 |
| | (0.012) | (0.008) |
| Leverage | −0.00000 | −0.00002 |
| | (0.00004) | (0.00003) |
| NetMargin | 0.056*** | 0.173*** |
| | (0.004) | (0.007) |
| FirmSize | −0.026*** | −0.034*** |
| | (0.004) | (0.004) |
| Industry | −0.003*** | −0.003*** |
| | (0.001) | (0.001) |
| AlphaJensen | 0.101*** | 0.007 |
| | (0.023) | (0.016) |
| Constant | 0.341*** | 0.403*** |
| | (0.045) | (0.038) |
| Observations | 1,119 | 1,116 |
| $R^2$ | 0.191 | 0.387 |
| Adjusted $R^2$ | 0.182 | 0.381 |
| F Statistic | 21.752*** (df = 12; 1106) | 58.138*** (df = 12; 1103) |

*Note:* *p<0.1; **p<0.05; ***p<0.01

Table 2: Model 1 - No Energy

| | *Dependent variable:* | |
| --- | --- | --- |
| | ROA | |
| | (1) | (2) |
| SustainabilityPayLink | −0.001 | 0.002 |
| | (0.004) | (0.003) |
| SustainableThemedCommitment | 0.009* | 0.012*** |
| | (0.005) | (0.004) |
| AuditScore | −0.004 | −0.002 |
| | (0.005) | (0.004) |
| CarbonProductivity | −0.013 | −0.012* |
| | (0.011) | (0.007) |
| WaterProductivity | 0.034*** | 0.022*** |
| | (0.012) | (0.008) |
| WasteProductivity | 0.002 | 0.006 |
| | (0.012) | (0.008) |
| Leverage | −0.00000 | −0.00002 |
| | (0.00004) | (0.00003) |
| NetMargin | 0.056*** | 0.173*** |
| | (0.004) | (0.007) |
| FirmSize | −0.027*** | −0.034*** |
| | (0.004) | (0.004) |
| Industry | −0.003*** | −0.003*** |
| | (0.001) | (0.001) |
| AlphaJensen | 0.101*** | 0.007 |
| | (0.023) | (0.016) |
| Constant | 0.342*** | 0.403*** |
| | (0.045) | (0.038) |
| Observations | 1,119 | 1,116 |
| $R^2$ | 0.190 | 0.387 |
| Adjusted $R^2$ | 0.182 | 0.381 |
| F Statistic | 23.673*** (df = 11; 1107) | 63.449*** (df = 11; 1104) |

*Note:* *p<0.1; **p<0.05; ***p<0.01

Table 3: Model 1 - Short Version

|  | *Dependent variable:* |
| --- | --- |
|  | ROA |
| SustainabilityPayLink | 0.001 |
|  | (0.003) |
| SustainableThemedCommitment | 0.012*** |
|  | (0.004) |
| AuditScore | −0.002 |
|  | (0.004) |
| Leverage | −0.00002 |
|  | (0.00003) |
| NetMargin | 0.175*** |
|  | (0.007) |
| FirmSize | −0.034*** |
|  | (0.004) |
| Industry | −0.003*** |
|  | (0.001) |
| AlphaJensen | 0.005 |
|  | (0.016) |
| Constant | 0.403*** |
|  | (0.039) |
| Observations | 1,116 |
| $R^2$ | 0.380 |
| Adjusted $R^2$ | 0.375 |
| F Statistic | 84.683*** (df = 8; 1107) |
| *Note:* | *p<0.1; **p<0.05; ***p<0.01 |

Table 4: Model 1 - Short Version

| | Dependent variable: |
|---|---|
| | ROA |
| CarbonProductivity | −0.014* |
| | (0.007) |
| | |
| WaterProductivity | 0.023*** |
| | (0.008) |
| | |
| WasteProductivity | 0.004 |
| | (0.008) |
| | |
| Leverage | −0.00002 |
| | (0.00003) |
| | |
| NetMargin | 0.173*** |
| | (0.007) |
| | |
| FirmSize | −0.032*** |
| | (0.004) |
| | |
| Industry | −0.003*** |
| | (0.001) |
| | |
| AlphaJensen | 0.009 |
| | (0.016) |
| | |
| Constant | 0.387*** |
| | (0.038) |
| | |
| Observations | 1,116 |
| $R^2$ | 0.381 |
| Adjusted $R^2$ | 0.377 |
| F Statistic | 85.180*** (df = 8; 1107) |

| Note: | *p<0.1; **p<0.05; ***p<0.01 |
|---|---|

Table 5: Model 2 - Comparaison with and without outliers

| | *Dependent variable:* | |
|---|---|---|
| | log(TobinsQ) | |
| | (1) | (2) |
| SustainabilityPayLink | 0.035 | 0.031 |
| | (0.026) | (0.025) |
| | | |
| SustainableThemedCommitment | 0.032 | 0.070** |
| | (0.037) | (0.035) |
| | | |
| AuditScore | 0.036 | 0.070** |
| | (0.036) | (0.034) |
| | | |
| CarbonProductivity | −0.019 | −0.059 |
| | (0.057) | (0.056) |
| | | |
| WaterProductivity | 0.057 | 0.082 |
| | (0.063) | (0.062) |
| | | |
| WasteProductivity | −0.172*** | −0.175*** |
| | (0.062) | (0.062) |
| | | |
| Leverage | 0.0001 | −0.001 |
| | (0.0002) | (0.002) |
| | | |
| NetMargin | −0.011 | 0.024 |
| | (0.022) | (0.058) |
| | | |
| FirmSize | −0.694*** | −1.028*** |
| | (0.045) | (0.050) |
| | | |
| Industry | −0.021 | −0.024** |
| | (0.013) | (0.012) |
| | | |
| AlphaJensen | 0.761*** | 0.767*** |
| | (0.125) | (0.127) |
| | | |
| Constant | 7.496*** | 10.946*** |
| | (0.464) | (0.513) |
| | | |
| Observations | 1,025 | 995 |
| R$^2$ | 0.227 | 0.333 |
| Adjusted R$^2$ | 0.218 | 0.326 |
| F Statistic | 26.974*** (df = 11; 1013) | 44.614*** (df = 11; 983) |

*Note:* $^*$p<0.1; $^{**}$p<0.05; $^{***}$p<0.01

Table 6: Model 3 - Comparaison with and without outliers

| | Dependent variable: | |
| --- | --- | --- |
| | ROE | |
| | (1) | (2) |
| SustainabilityPayLink | 0.007 | 0.010 |
| | (0.029) | (0.016) |
| SustainableThemedCommitment | 0.141*** | 0.066*** |
| | (0.035) | (0.020) |
| AuditScore | 0.003 | −0.005 |
| | (0.035) | (0.020) |
| CarbonProductivity | −0.103 | −0.056 |
| | (0.070) | (0.037) |
| WaterProductivity | 0.084 | 0.046 |
| | (0.079) | (0.042) |
| WasteProductivity | 0.076 | 0.009 |
| | (0.077) | (0.041) |
| Leverage | 0.003*** | −0.007*** |
| | (0.0003) | (0.001) |
| NetMargin | 0.111*** | 0.516*** |
| | (0.028) | (0.043) |
| FirmSize | −0.099*** | −0.050*** |
| | (0.030) | (0.018) |
| Industry | −0.005 | −0.003 |
| | (0.007) | (0.004) |
| AlphaJensen | 0.351** | 0.170** |
| | (0.152) | (0.082) |
| Constant | 1.140*** | 0.620*** |
| | (0.306) | (0.182) |
| Observations | 1,119 | 1,103 |
| $R^2$ | 0.135 | 0.160 |
| Adjusted $R^2$ | 0.126 | 0.151 |
| F Statistic | 15.719*** (df = 11; 1107) | 18.864*** (df = 11; 1091) |

*Note:*      *p<0.1; **p<0.05; ***p<0.01

Table 7: Model 4 - Comparaison with and without outliers

| | Dependent variable: | |
|---|---|---|
| | AlphaJensen | |
| | (1) | (2) |
| SustainabilityPayLink | 0.0002 | 0.00003 |
| | (0.004) | (0.003) |
| SustainableThemedCommitment | 0.001 | 0.002 |
| | (0.004) | (0.003) |
| AuditScore | 0.002 | 0.001 |
| | (0.004) | (0.003) |
| CarbonProductivity | −0.004 | −0.011 |
| | (0.012) | (0.010) |
| WaterProductivity | −0.004 | 0.004 |
| | (0.014) | (0.012) |
| WasteProductivity | 0.003 | −0.001 |
| | (0.014) | (0.012) |
| Leverage | −0.0001*** | −0.0002*** |
| | (0.00004) | (0.0001) |
| NetMargin | 0.014*** | 0.019** |
| | (0.005) | (0.008) |
| FirmSize | −0.003 | −0.002 |
| | (0.003) | (0.003) |
| Industry | 0.001 | 0.0003 |
| | (0.001) | (0.001) |
| Beta | −0.015*** | −0.013*** |
| | (0.002) | (0.002) |
| Constant | 0.041 | 0.034 |
| | (0.030) | (0.026) |
| Observations | 1,119 | 1,097 |
| $R^2$ | 0.066 | 0.054 |
| Adjusted $R^2$ | 0.057 | 0.044 |
| F Statistic | 7.145*** (df = 11; 1107) | 5.631*** (df = 11; 1085) |

*Note:* *p<0.1; **p<0.05; ***p<0.01

Table 8: Model 5 - Comparaison with and without outliers

| | *Dependent variable:* | |
|---|---|---|
| | Ra | |
| | (1) | (2) |
| SustainabilityPayLink | −0.007*** | −0.006*** |
| | (0.002) | (0.001) |
| SustainableThemedCommitment | −0.001 | −0.002 |
| | (0.002) | (0.001) |
| AuditScore | −0.005*** | −0.004*** |
| | (0.002) | (0.001) |
| CarbonProductivity | 0.039*** | 0.042*** |
| | (0.005) | (0.005) |
| WaterProductivity | 0.012** | 0.015*** |
| | (0.006) | (0.005) |
| WasteProductivity | 0.017*** | 0.013** |
| | (0.006) | (0.005) |
| Leverage | 0.00003** | 0.00004 |
| | (0.00002) | (0.00002) |
| NetMargin | 0.001 | 0.005 |
| | (0.002) | (0.004) |
| FirmSize | 0.001 | 0.0003 |
| | (0.001) | (0.001) |
| Industry | 0.00003 | 0.00003 |
| | (0.0003) | (0.0002) |
| AlphaJensen | 0.998*** | 1.010*** |
| | (0.012) | (0.012) |
| Constant | −0.012 | −0.003 |
| | (0.012) | (0.011) |
| Observations | 1,119 | 1,096 |
| $R^2$ | 0.869 | 0.881 |
| Adjusted $R^2$ | 0.868 | 0.880 |
| F Statistic | 668.889*** (df = 11; 1107) | 727.925*** (df = 11; 1084) |

*Note:* ***p<0.1; ***p<0.05; ***p<0.01

9

Table 9: Hausman Test PValue

| Model | P-Value |
|-------|---------|
| Model 1 without outliers | 0.0249 |
| Model 2 without outliers | 0.9994 |
| Model 3 without outliers | 0 |
| Model 5 without outliers | 0 |

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

| | *Dependent variable:* | | |
|---|---|---|---|
| | ROA | log(TobinsQ) | ROE |
| | (1) | (2) | (3) |
| SustainabilityPayLink | 0.001 | 0.027 | −0.007 |
| | (0.004) | (0.026) | (0.018) |
| SustainableThemedCommitment | 0.019*** | 0.070* | 0.049* |
| | (0.006) | (0.040) | (0.029) |
| AuditScore | −0.001 | 0.050 | −0.013 |
| | (0.006) | (0.038) | (0.028) |
| CarbonProductivity | −0.014* | −0.065 | −0.085** |
| | (0.008) | (0.056) | (0.039) |
| WaterProductivity | 0.022** | 0.071 | 0.051 |
| | (0.008) | (0.061) | (0.044) |
| WasteProductivity | 0.007 | −0.175*** | −0.004 |
| | (0.008) | (0.062) | (0.043) |
| Leverage | −0.00003 | −0.002 | −0.008*** |
| | (0.00003) | (0.002) | (0.002) |
| NetMargin | 0.185*** | 0.024 | 0.503*** |
| | (0.008) | (0.060) | (0.047) |
| FirmSize | −0.025*** | −0.873*** | −0.031 |
| | (0.007) | (0.092) | (0.034) |
| AlphaJensen | 0.005 | 0.732*** | 0.191** |
| | (0.016) | (0.126) | (0.084) |
| Observations | 1,116 | 995 | 1,103 |
| $R^2$ | 0.438 | 0.190 | 0.185 |
| Adjusted $R^2$ | 0.144 | −0.255 | −0.244 |
| F Statistic | 57.114*** (df = 10; 732) | 15.025*** (df = 10; 642) | 16.376*** (df = 10; 722) |

*Note:* *p<0.1; **p<0.05; ***p<0.01

10

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

|  | *Dependent variable:* |
| --- | --- |
|  | Ra |
| SustainabilityPayLink | −0.013*** |
|  | (0.003) |
| SustainableThemedCommitment | −0.009* |
|  | (0.005) |
| AuditScore | −0.023*** |
|  | (0.005) |
| CarbonProductivity | 0.048*** |
|  | (0.007) |
| WaterProductivity | 0.017** |
|  | (0.008) |
| WasteProductivity | 0.012 |
|  | (0.007) |
| Leverage | 0.00004 |
|  | (0.00003) |
| NetMargin | 0.013* |
|  | (0.008) |
| FirmSize | −0.015** |
|  | (0.006) |
| AlphaJensen | 1.027*** |
|  | (0.015) |
| Observations | 1,096 |
| $R^2$ | 0.877 |
| Adjusted $R^2$ | 0.812 |
| F Statistic | 510.394*** (df = 10; 713) |
| *Note:* | *p<0.1; **p<0.05; ***p<0.01 |

Figure 1: Observations considered as outliers in model 1 (i.e. Roa)
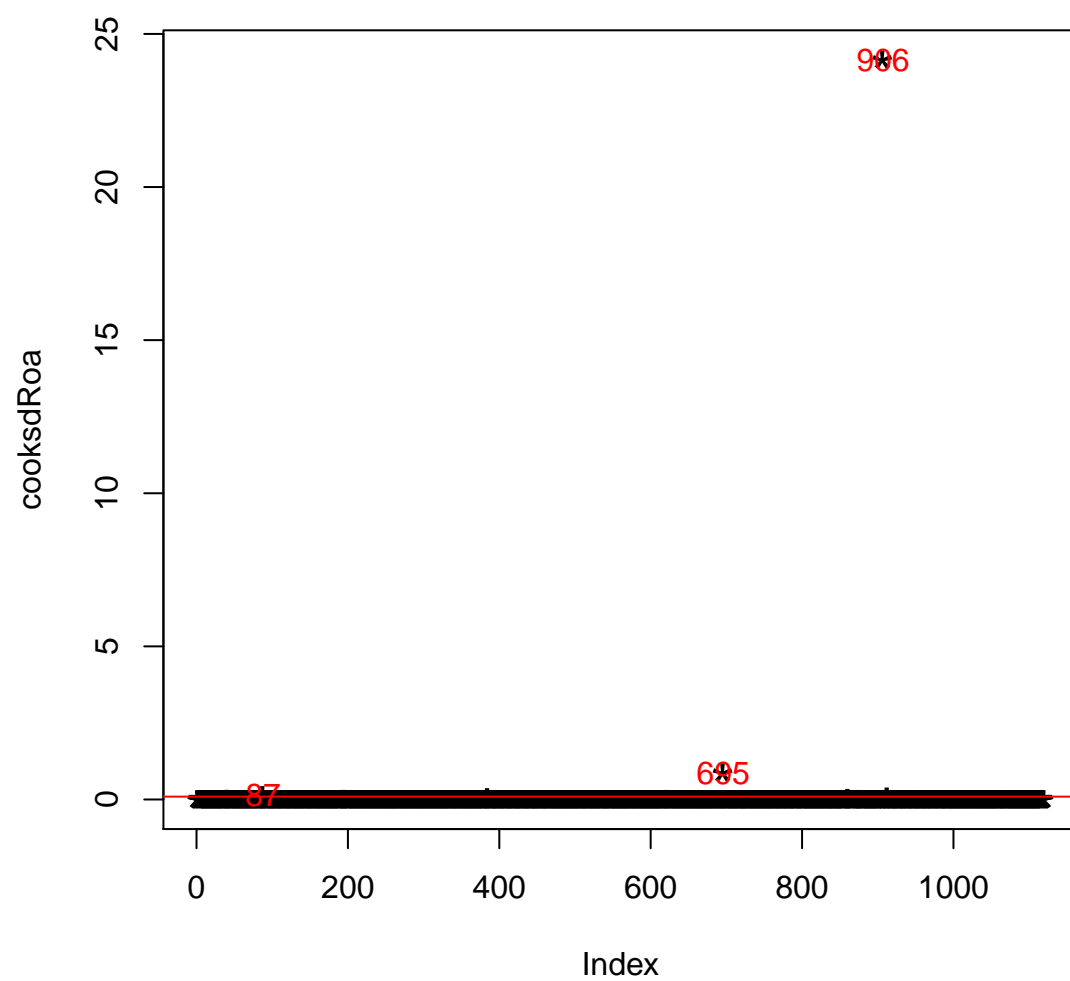
Figure 2: Observations considered as outliers in model 2 (i.e. Tobin's Q)
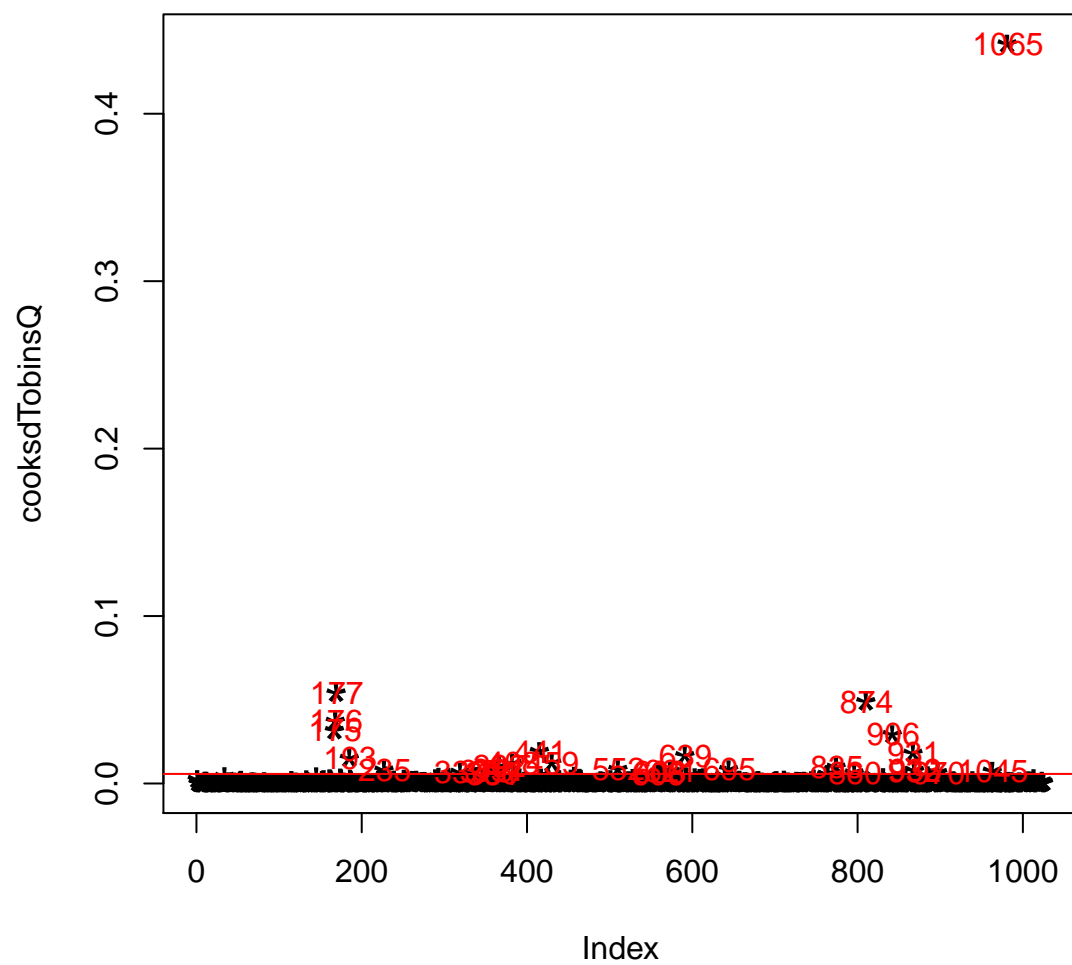
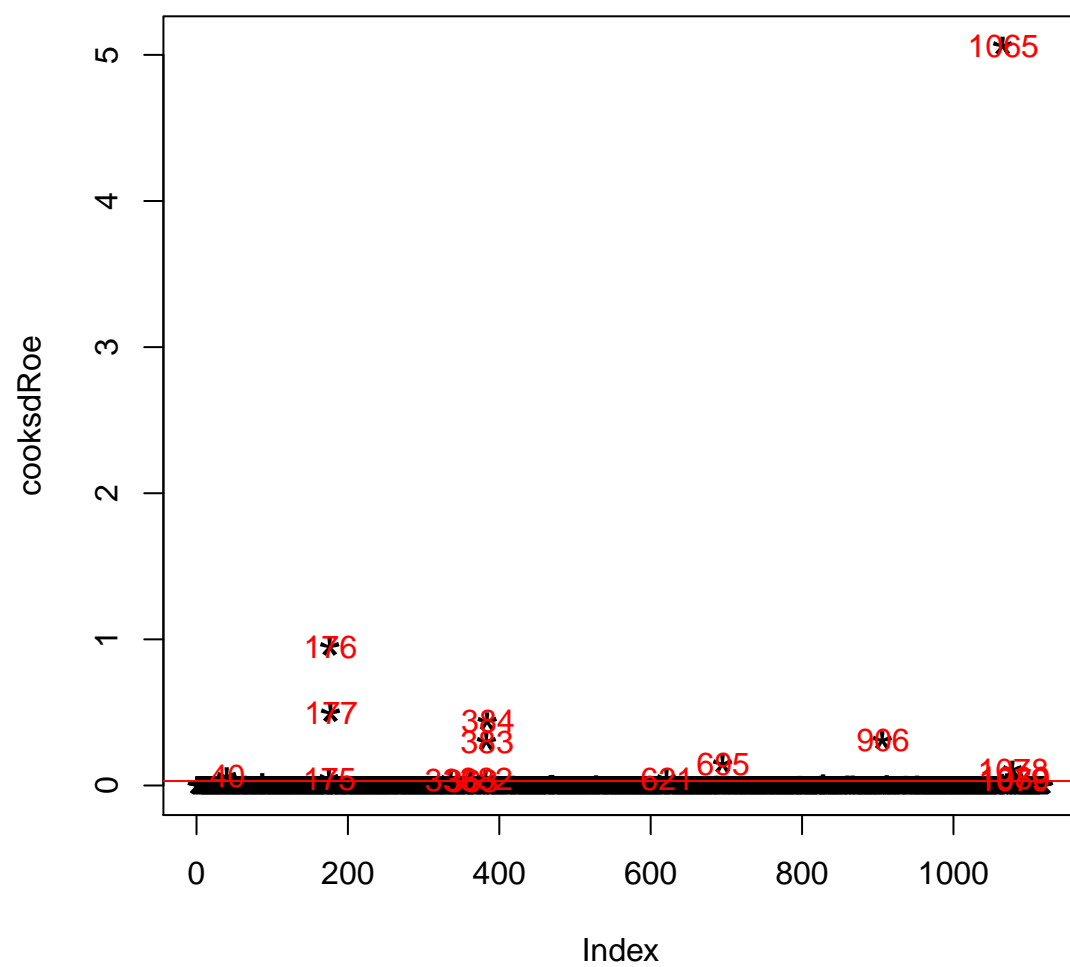Figure 3: Observations considered as outliers in model 1 (i.e. Roe)

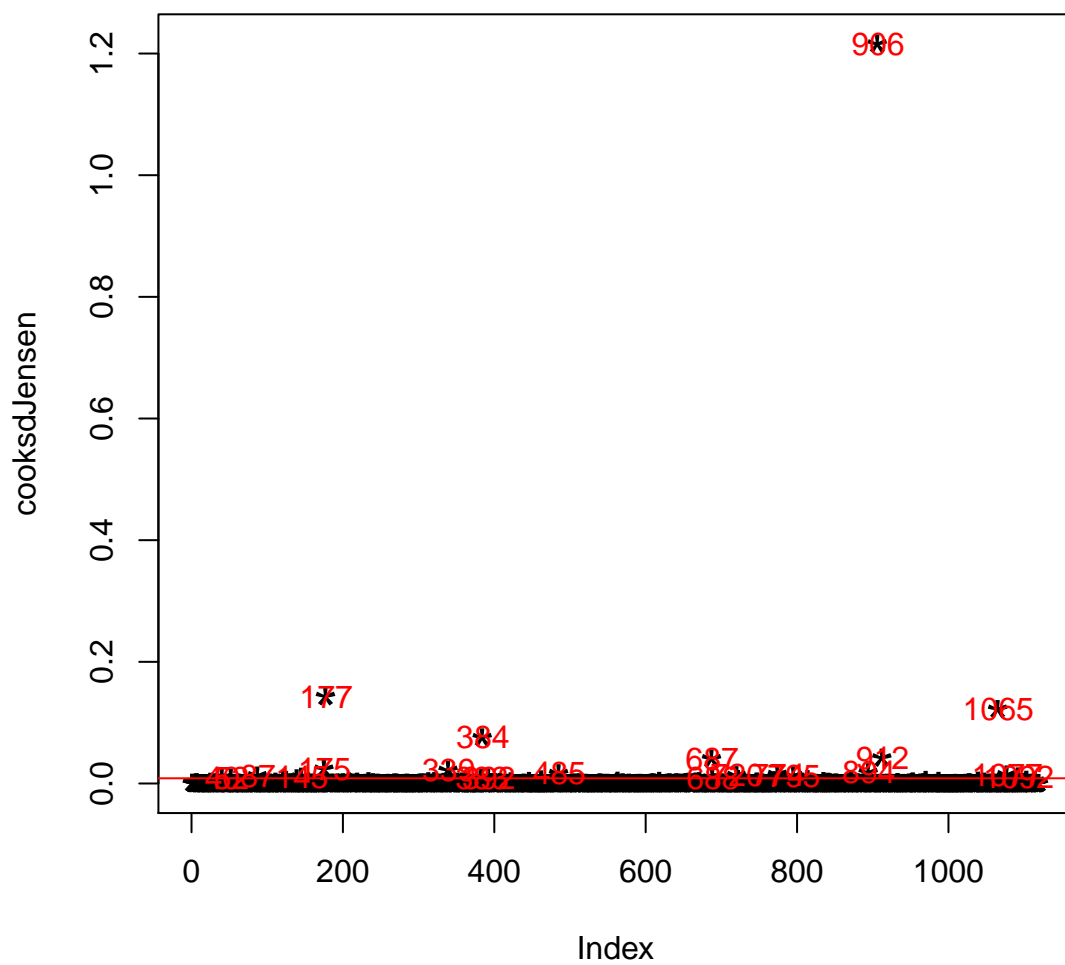Figure 4: Observations considered as outliers in model 4 (i.e. Jensen's Alpha)

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