

# Transmission Risk Comparison

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## Libraries

```
library(tidyverse)
library(ggplot2)
require("knitr")
library(gridExtra)
library(grid)
library(lubridate)
library(dplyr)
library(hms)
library(truncdist)
library(crch)
library(stats)
library(LaplacesDemon)
library(ggstatsplot)
library(MASS)
library(fitdistrplus)
library(truncnorm)
library(tidybayes)
library(ggpubr)
library(psych)
library(ggpattern)
library(gridExtra)
library(GGally)

text_size = 8
theme_bw2 <- function () {
  theme_bw(base_size = text_size, base_family = 'sans') %+replace%
    theme(
      axis.text = element_text(size = text_size),
      axis.title = element_text(size = text_size),
      plot.title = element_text(size = text_size + 2, face = "bold", hjust = 0, margin = ggplot2::margin(
    )
  )
}
```

## Data

```

ch <- readRDS("data-clean/co2-ch.rds") #swiss data
satz <- readRDS("data-clean/co2-sa-tz.rds")

ch <- ch %>%
  filter(co2 > 400) %>%
  arrange(co2)

ch1 <- ch %>%
  filter(school == "School 1")

ch2 <- ch %>%
  filter(school == "School 2")

sa <- satz %>%
  filter(country == "South Africa") %>%
  filter(co2 < 3000) %>%
  filter(co2 > 400) %>%
  arrange(co2) #south africa data

tz <- satz %>%
  filter(country == "Tanzania") %>%
  filter(co2 < 3000) %>%
  filter(co2 > 400) %>%
  mutate(time_h = hour(date)) %>%
  filter(time_h >= 8) %>%
  arrange(co2) #tanzania data

```

## Methods

Indoor Co2 concentration

- \* mean or distribution from data
- \*  $C_o$  := Outdoor Co2 concentration \* from literature [https://www.fsis.usda.gov/sites/default/files/media\\_file/2020-08/Carbon-Dioxide.pdf](https://www.fsis.usda.gov/sites/default/files/media_file/2020-08/Carbon-Dioxide.pdf)
- \*  $C_a$  := Volume fraction of CO2 added to exhaled breath during breathing
- \* Persily and de Jonge [Table 3 and 4] doi: 10.1111/ina.12383
- \*  $\bar{f} := \int_{t=0}^{t=max} f dt$
- \* integrating over f values from different times (2) or using a distribution based on the data
- \*  $I$  := Number of infectors in the class
- \* estimated using prevalence of the age group in the country
- \*  $q$  := Quantum per hour
- \* assuming a distribution from literature
- \*  $t$  := time
- \* changing this parameter to compare
- \*  $n$  := number of people in the class
- \* data (Switzerland) or assumption (South Africa, Tanzania)

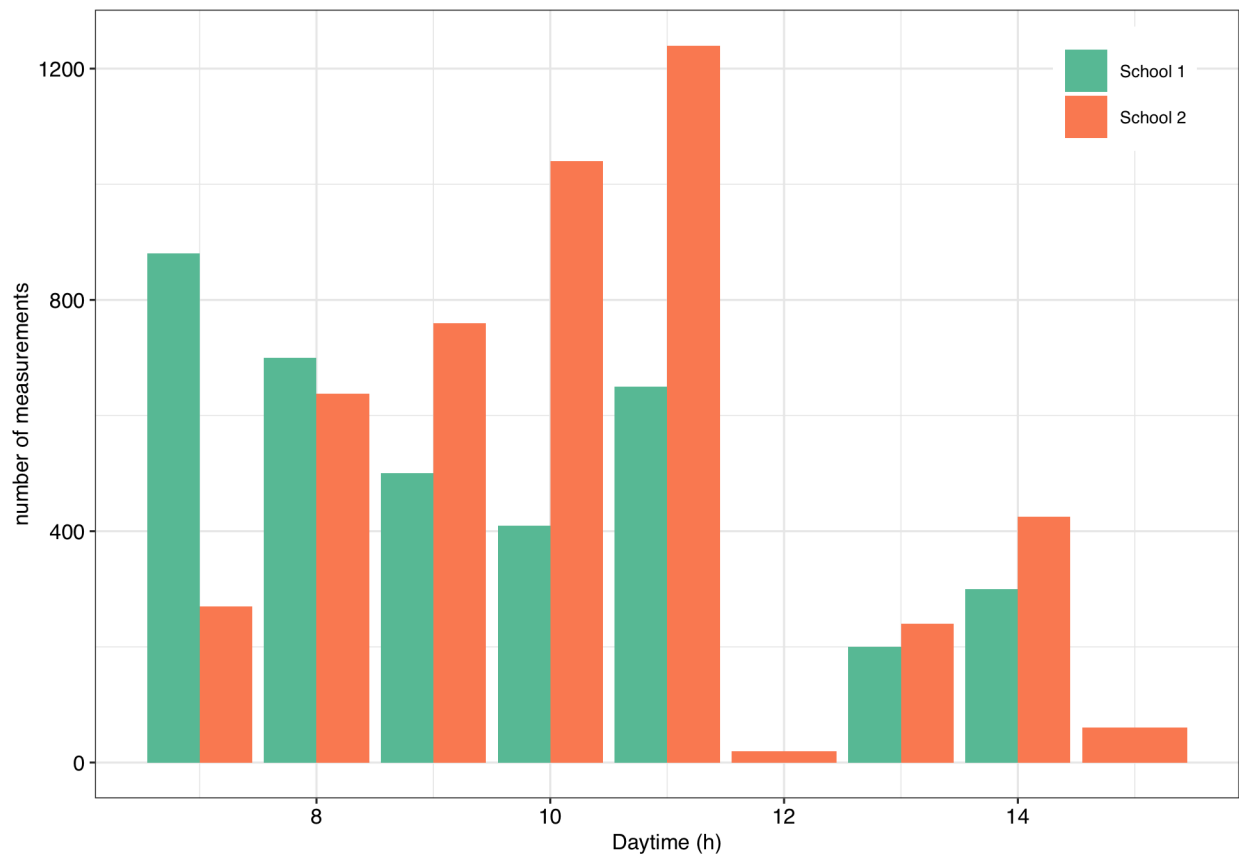
## Preprocess

```

ch_hourly <- ch %>%
  mutate(time_h = hour(time)) %>%
  group_by(school, time_h) %>%
  summarize(mean = mean(co2),
             lower = quantile(co2, 0.25),
             upper = quantile(co2, 0.75),
             n_data = n()) %>%
  ungroup()

ch_hourly %>%
  ggplot(aes(x = time_h, y = n_data, fill = school)) +
  geom_bar(stat = "identity", position = position_dodge()) +
  xlab("Daytime (h)") +
  ylab("number of measurements") +
  theme_bw2() +
  theme(legend.position = c(0.9,0.9), legend.title = element_blank()) +
  scale_color_brewer(palette = "Set2") +
  scale_fill_brewer(palette = "Set2")

```



*# there is a reasonable number of data points per hour but missing data at hour 12 for school 2 (no les*

```

tz_hourly <- tz %>%
  mutate(time_h = hour(date)) %>%
  group_by(time_h) %>%
  summarize(mean = mean(co2),

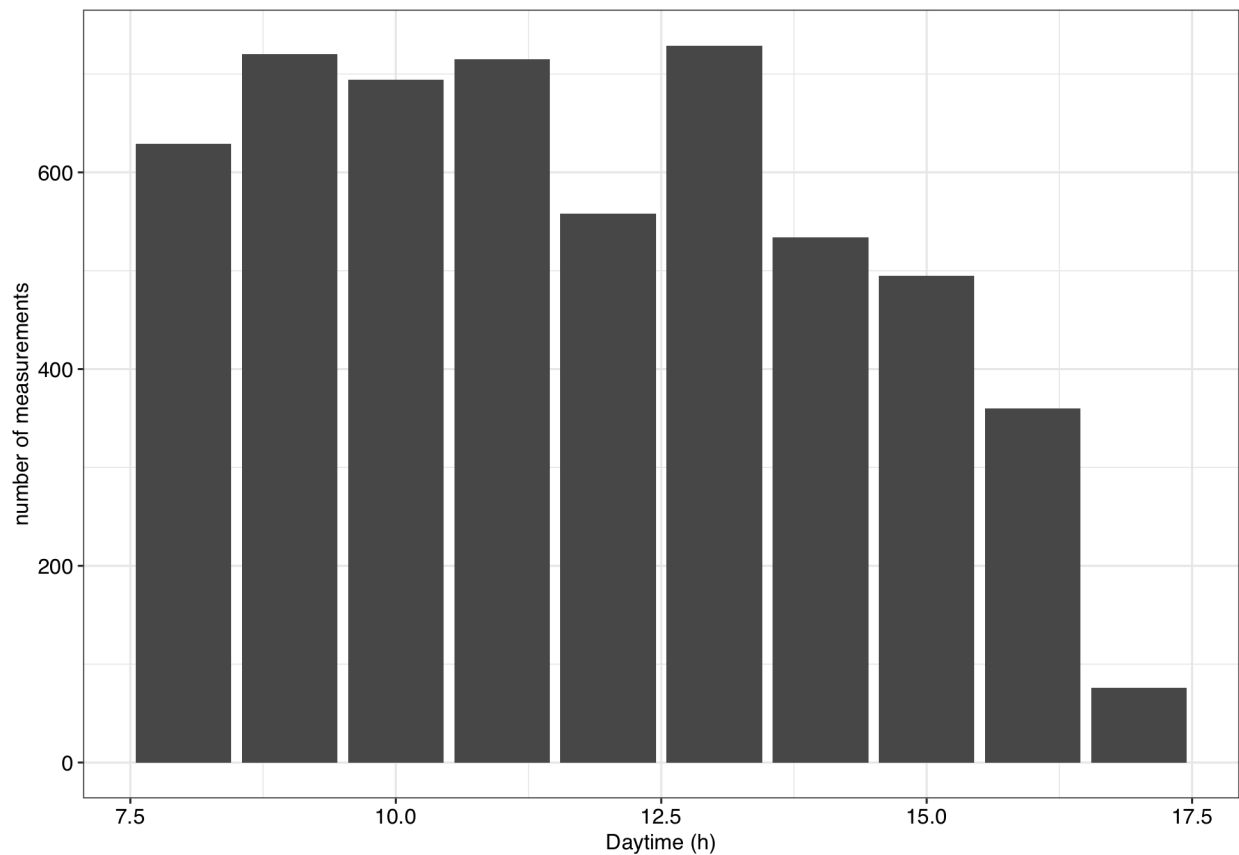
```

```

    lower = quantile(co2, 0.25),
    upper = quantile(co2, 0.75),
    n_data = n()) %>%
  ungroup()

tz_hourly %>%
  ggplot(aes(x = time_h, y = n_data)) +
  geom_bar(stat = "identity", position = position_dodge()) +
  xlab("Daytime (h)") +
  ylab("number of measurements") +
  theme_bw2() +
  theme(legend.position = c(0.9,0.9), legend.title = element_blank())

```



*# data is measured throughout the day in south africa*

## Analysis

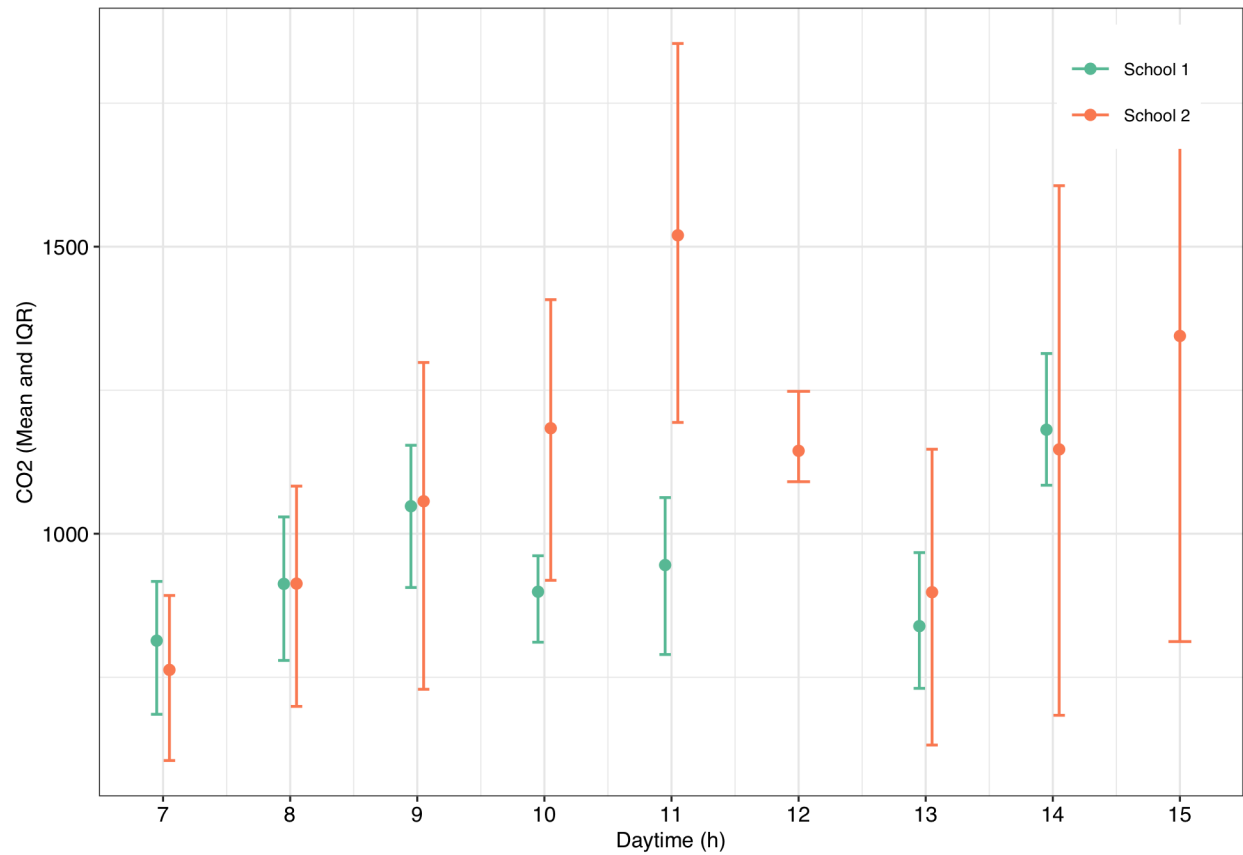
### Co2 over time

```

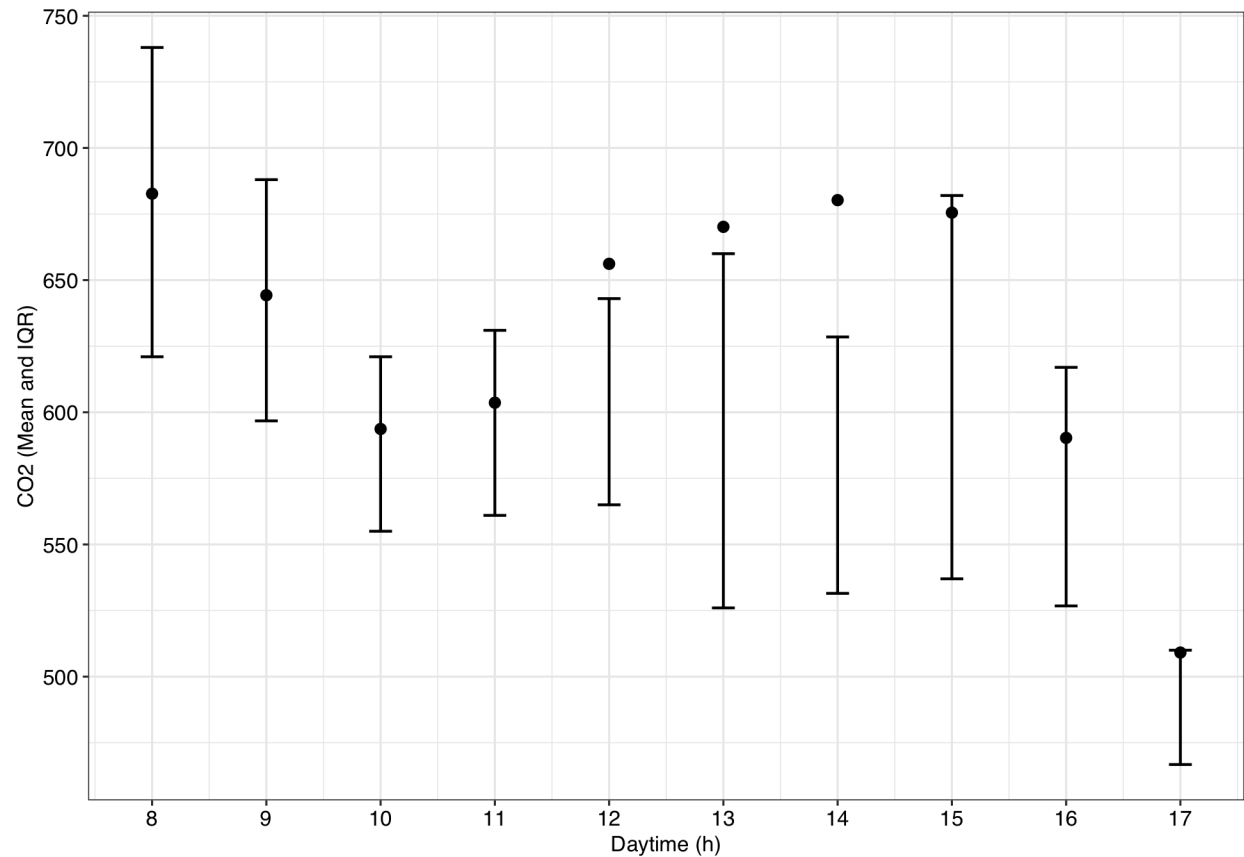
ch_hourly %>% #plot co2 during the day (ch)
  ggplot(aes(x = time_h, group = school, color = school)) +
  geom_errorbar(aes(ymin = lower, ymax = upper), width = .2, position = position_dodge2(width = .2)) +
  geom_point(aes(y = mean), position = position_dodge2(width = .2)) +

```

```
scale_color_brewer(palette = "Set2") +
scale_x_continuous(breaks = seq(7, 16, 1)) +
labs(x = "Daytime (h)", y = "CO2 (Mean and IQR)") +
theme_bw2() +
theme(legend.position = c(0.9,0.9), legend.title = element_blank())
```



```
tz_hourly %>% #plot co2 during the day (tz)
ggplot(aes(x = time_h)) +
geom_errorbar(aes(ymin = lower, ymax = upper), width = .2, position = position_dodge2(width = .2))
geom_point(aes(y = mean), position = position_dodge2(width = .2)) +
scale_color_brewer(palette = "Set2") +
scale_x_continuous(breaks = seq(7, 17, 1)) +
labs(x = "Daytime (h)", y = "CO2 (Mean and IQR)") +
theme_bw2() +
theme(legend.position = c(0.9,0.9), legend.title = element_blank())
```



*#no time data available for south africa*

## Smoothing Data

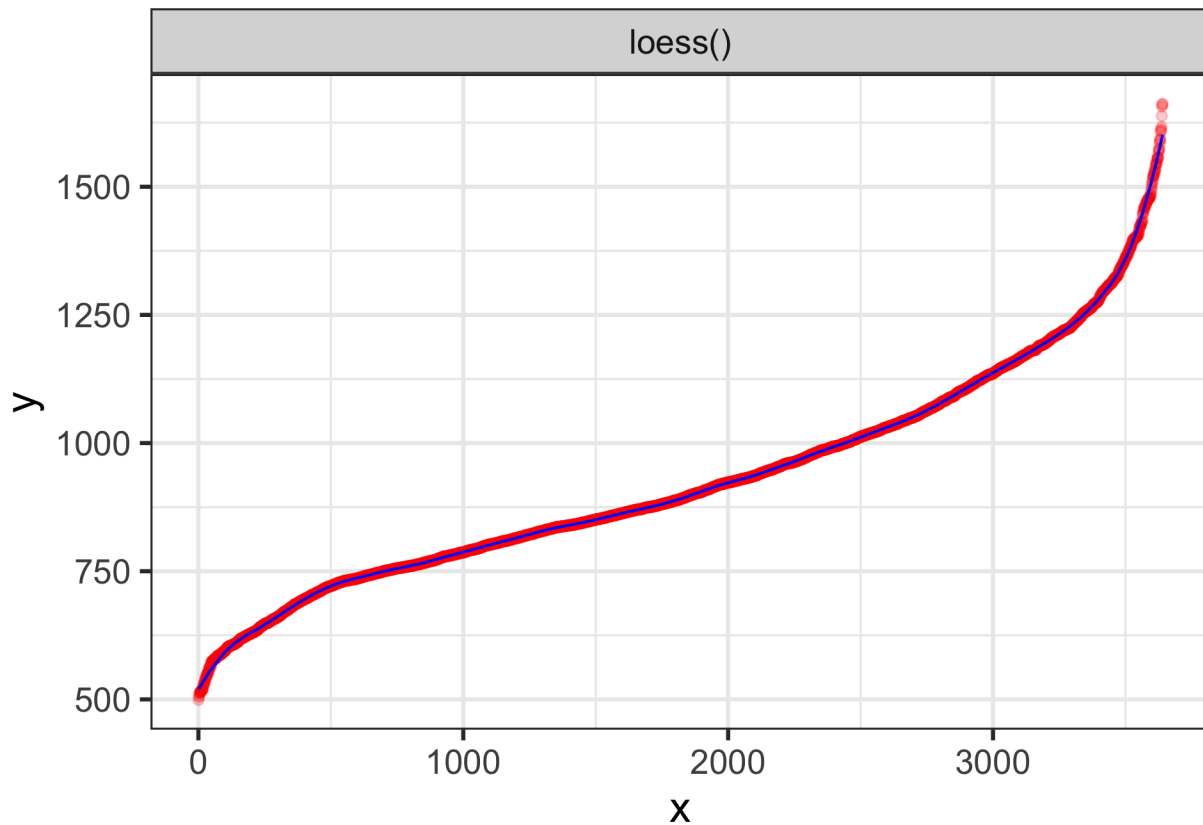
```
# CH
##school 1
set.seed(1)

dat_ch1 <- data.frame(
  x = 1:length(ch1$co2),
  y = ch1$co2
)

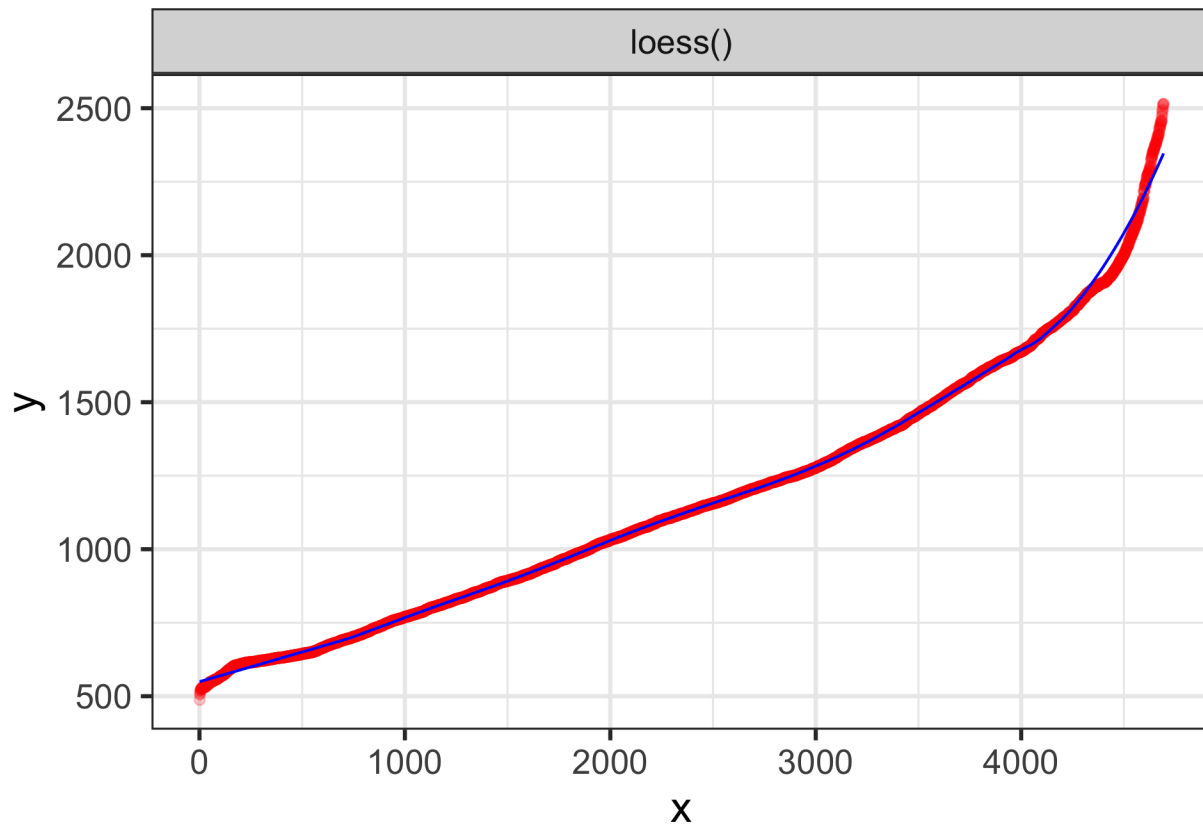
loessData_ch1 <- data.frame(
  x = 1:length(ch1$co2),
  y = predict(loess(y~x, dat_ch1, span = 0.1)),
  method = "loess()"
) %>%
  mutate(school = "school 1")

ggplot(loessData_ch1, aes(x, y)) +
  geom_point(dat = dat_ch1, aes(x, y), alpha = 0.2, col = "red") +
  geom_line(col = "blue") +
```

```
facet_wrap(~method) +  
theme_bw(16)
```



```
##school 2  
dat_ch2 <- data.frame(  
  x = 1:length(ch2$co2),  
  y = ch2$co2  
)  
  
loessData_ch2 <- data.frame(  
  x = 1:length(ch2$co2),  
  y = predict(loess(y~x, dat_ch2, span = 0.3)),  
  method = "loess()  
) %>%  
  mutate(school = "school 2")  
  
ggplot(loessData_ch2, aes(x, y)) +  
  geom_point(dat = dat_ch2, aes(x, y), alpha = 0.2, col = "red") +  
  geom_line(col = "blue") +  
  facet_wrap(~method) +  
  theme_bw(16)
```



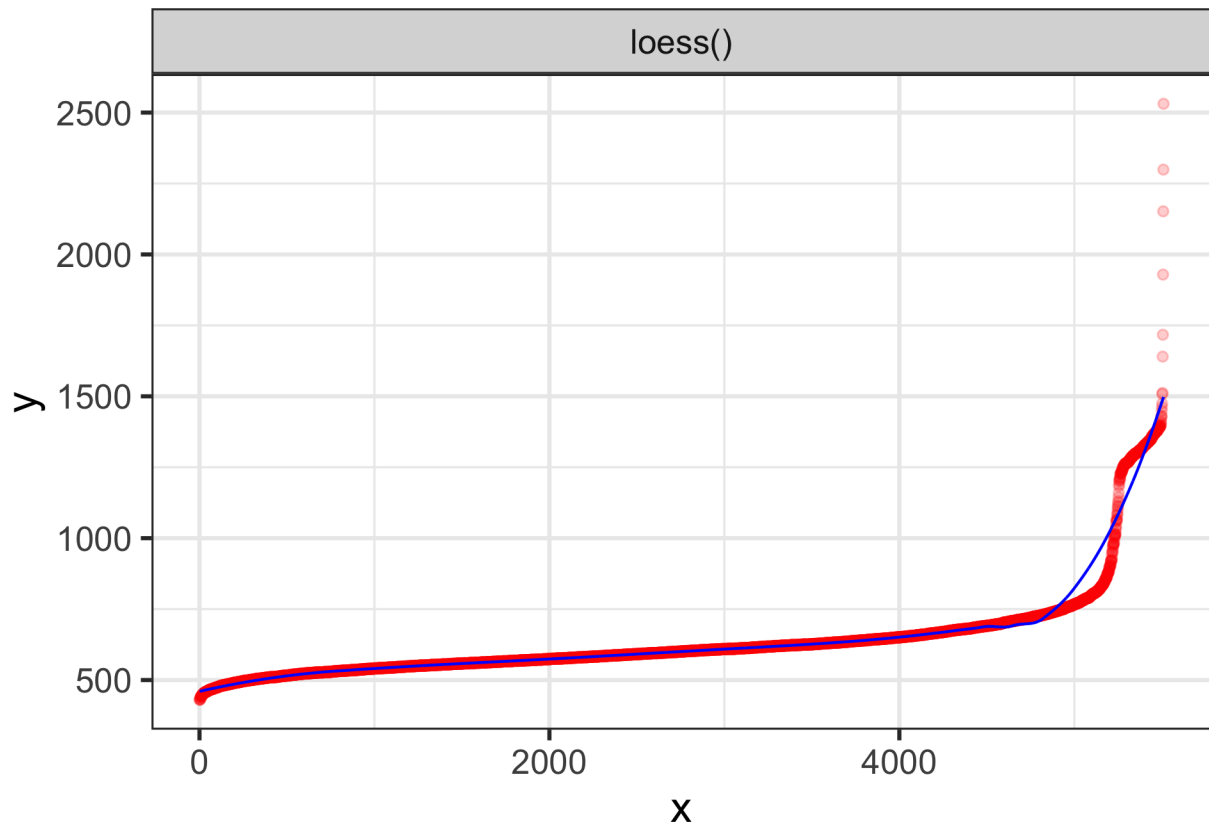
```
loessData_ch <- rbind(loessData_ch1, loessData_ch2)

# TZ
dat_tz <- data.frame(
  x = 1:length(tz$co2),
  y = tz$co2
)

loessData_tz <- data.frame(
  x = 1:length(tz$co2),
  y = predict(loess(y~x, dat_tz, span = 0.3)),
  method = "loess()"
)

ggplot(loessData_tz, aes(x, y)) +
  geom_point(dat = dat_tz, aes(x, y), alpha = 0.2, col = "red") +
  geom_line(col = "blue") +
  facet_wrap(~method) +
  theme_bw(16)
```

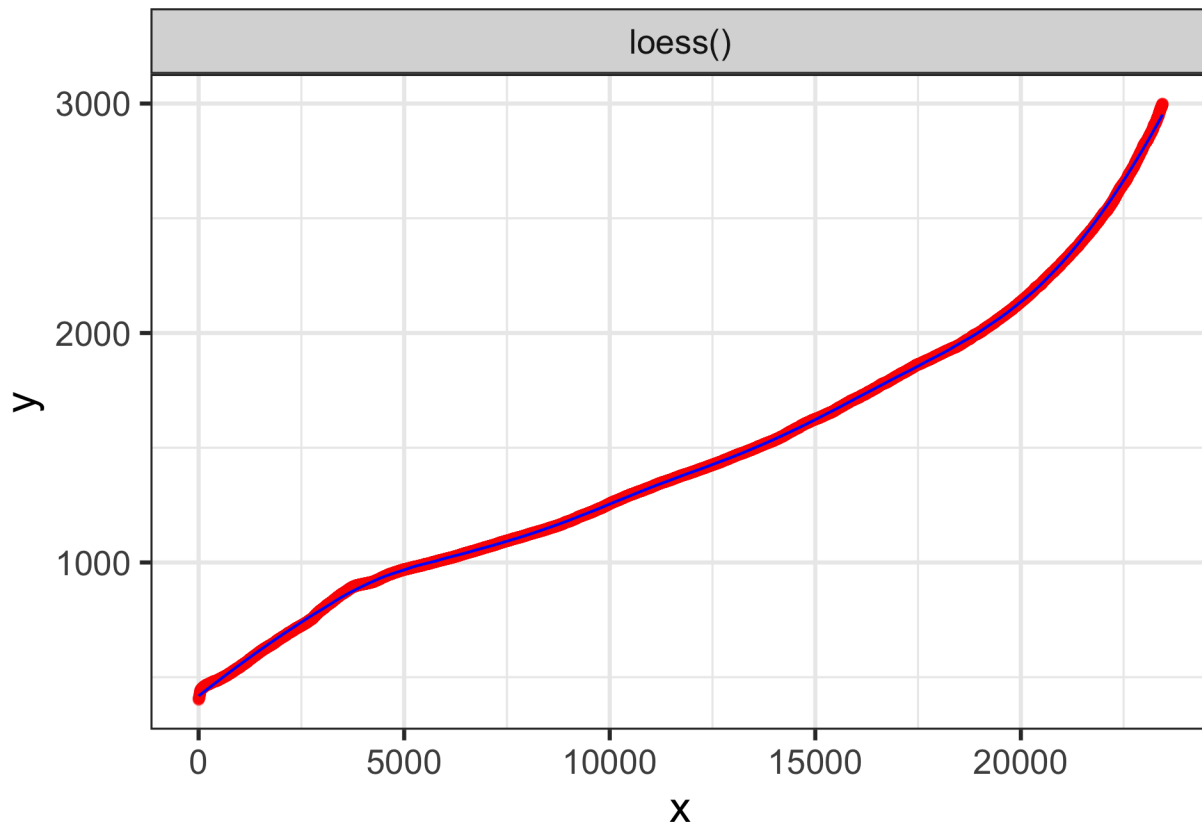




```
# SA
dat_sa <- data.frame(
  x = 1:length(sa$co2),
  y = sa$co2
)

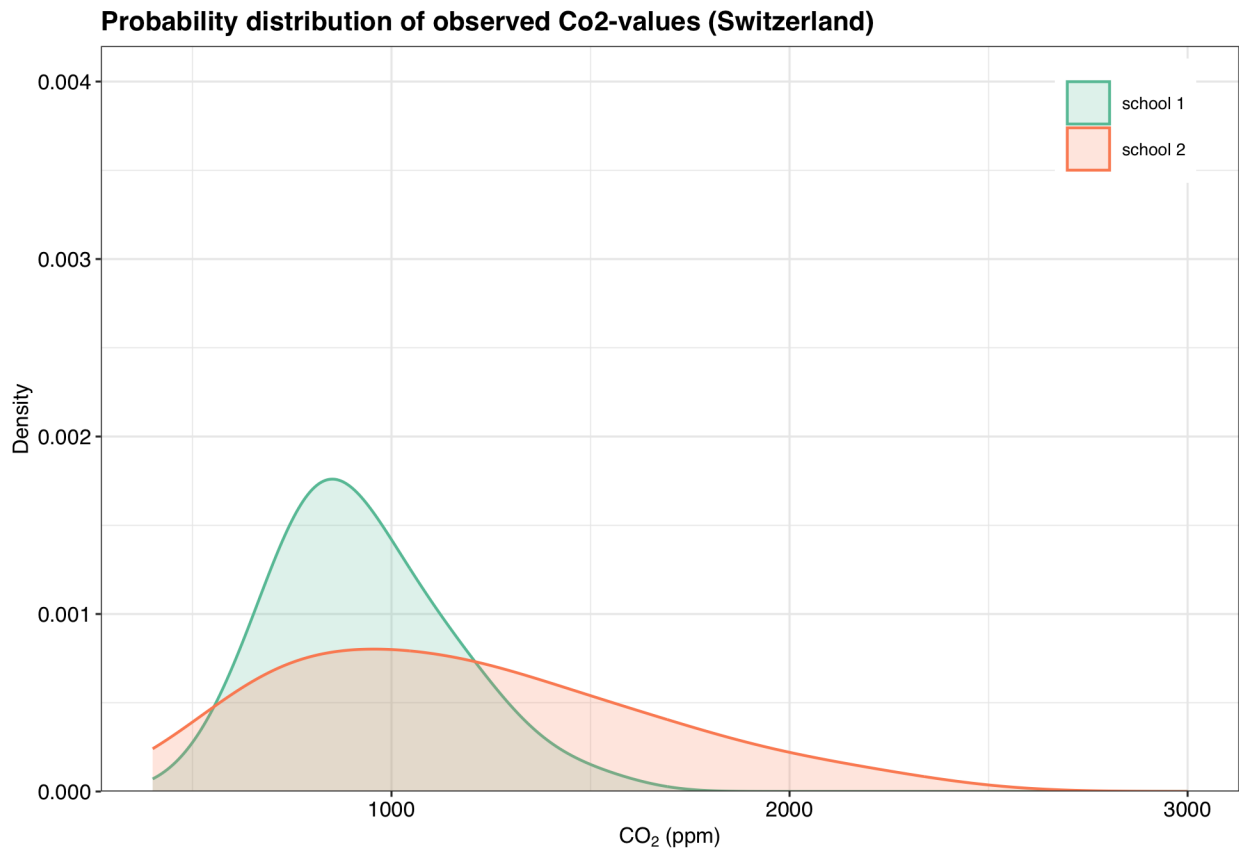
loessData_sa <- data.frame(
  x = 1:length(sa$co2),
  y = predict(loess(y~x, dat_sa, span = 0.3)),
  method = "loess()"
)

ggplot(loessData_sa, aes(x, y)) +
  geom_point(dat = dat_sa, aes(x, y), alpha = 0.2, col = "red") +
  geom_line(col = "blue") +
  facet_wrap(~method) +
  theme_bw(16)
```

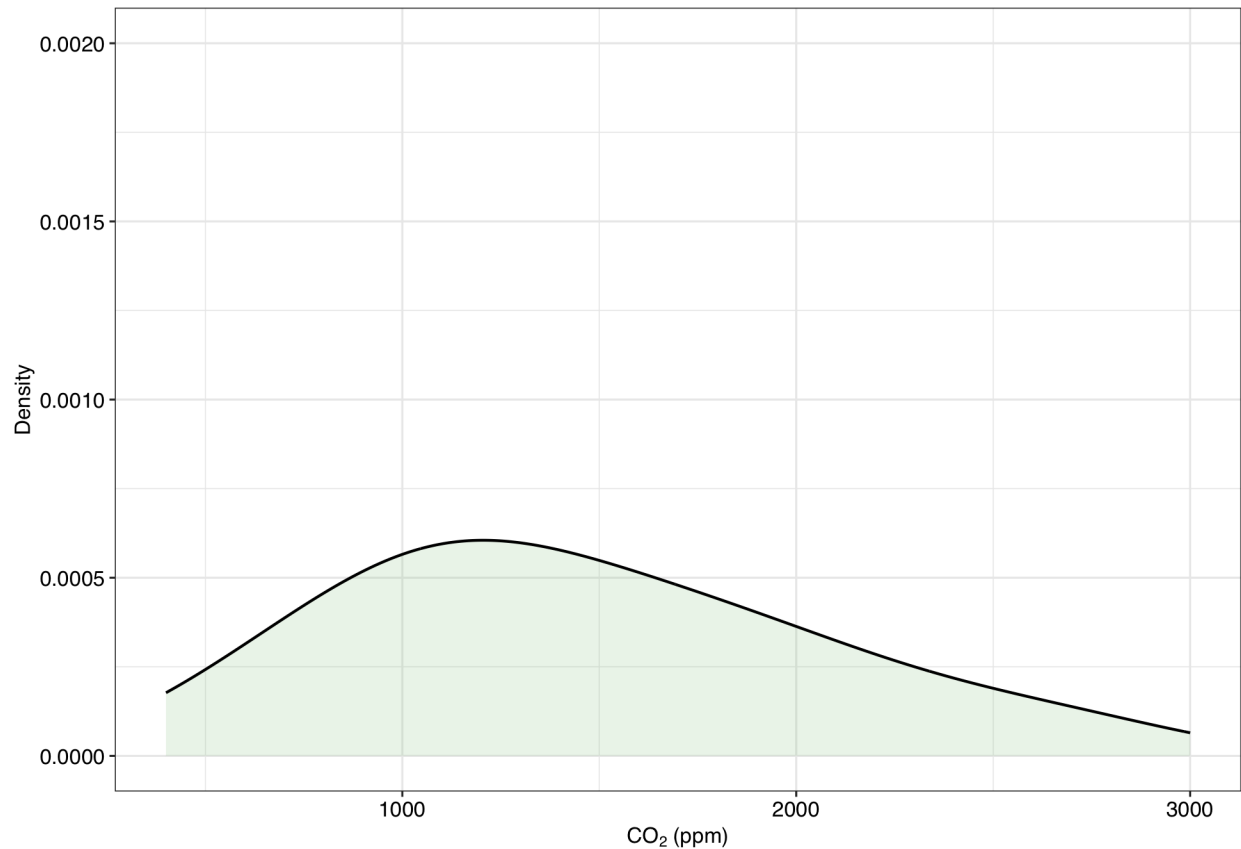


## Co2 distribution

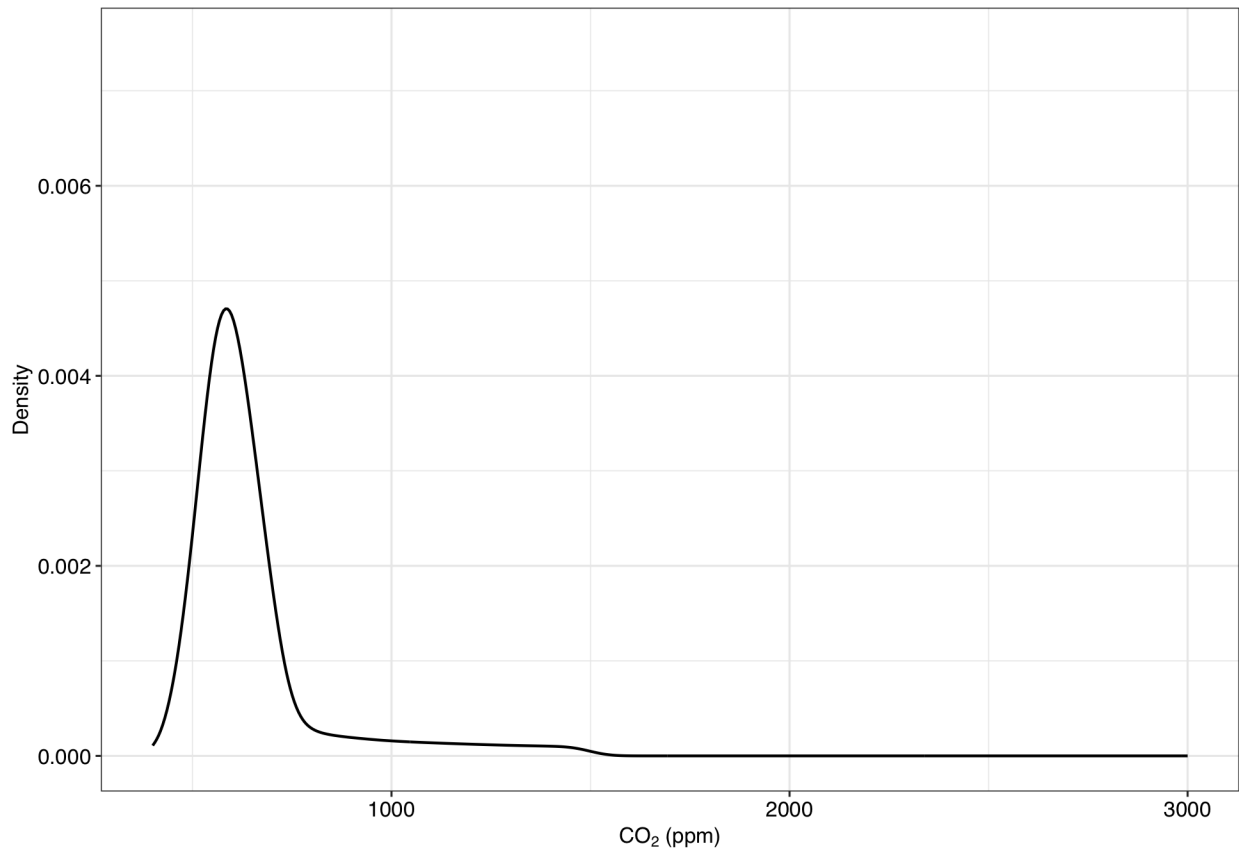
```
loessData_ch %>% #density plot ch
  ggplot(aes(x = y, color = school, fill = school)) +
  geom_density(alpha = .2, kernel = "gaussian", adjust = 3) +
  scale_x_continuous(expand = c(0,0)) +
  scale_color_brewer(palette = "Set2") +
  scale_fill_brewer(palette = "Set2") +
  scale_y_continuous(expand = expansion(mult = c(0, 0.05)), limits = c(0, 0.004)) +
  scale_x_continuous(limits = c(400, 3000)) +
  labs(x = expression(CO[2]*" (ppm)"), y = "Density") +
  theme_bw2() +
  theme(legend.position = c(0.9,0.9), legend.title = element_blank()) +
  ggtitle("Probability distribution of observed Co2-values (Switzerland)")
```



```
loessData_sa %>% #density plot sa smooth
  ggplot(aes(x = y)) +
  geom_density(alpha = .2, kernel = "gaussian", adjust = 4, fill = "darkseagreen3") +
  scale_x_continuous(expand = c(0,0)) +
  scale_color_brewer(palette = "Set2") +
  scale_fill_brewer(palette = "Set2") +
  scale_y_continuous(limits = c(0, 0.002)) +
  scale_x_continuous(limits = c(400, 3000)) +
  labs(x = expression(CO[2]*" (ppm)"), y = "Density") +
  theme(legend.position = "none") +
  theme_bw2()
```



```
loessData_tz %>% #density plot tz smooth
  ggplot(aes(x = y)) +
  geom_density(alpha = .2, kernel = "gaussian", adjust = 3.2) +
  scale_x_continuous(expand = c(0,0)) +
  scale_color_brewer(palette = "Set2") +
  scale_fill_brewer(palette = "Set2") +
  scale_y_continuous(limits = c(0, 0.0075)) +
  scale_x_continuous(limits = c(400, 3000)) +
  labs(x = expression(CO[2]*" (ppm)"), y = "Density") +
  theme_bw2() +
  theme(legend.position = c(0.9,0.9), legend.title = element_blank())
```



### Distribution co2

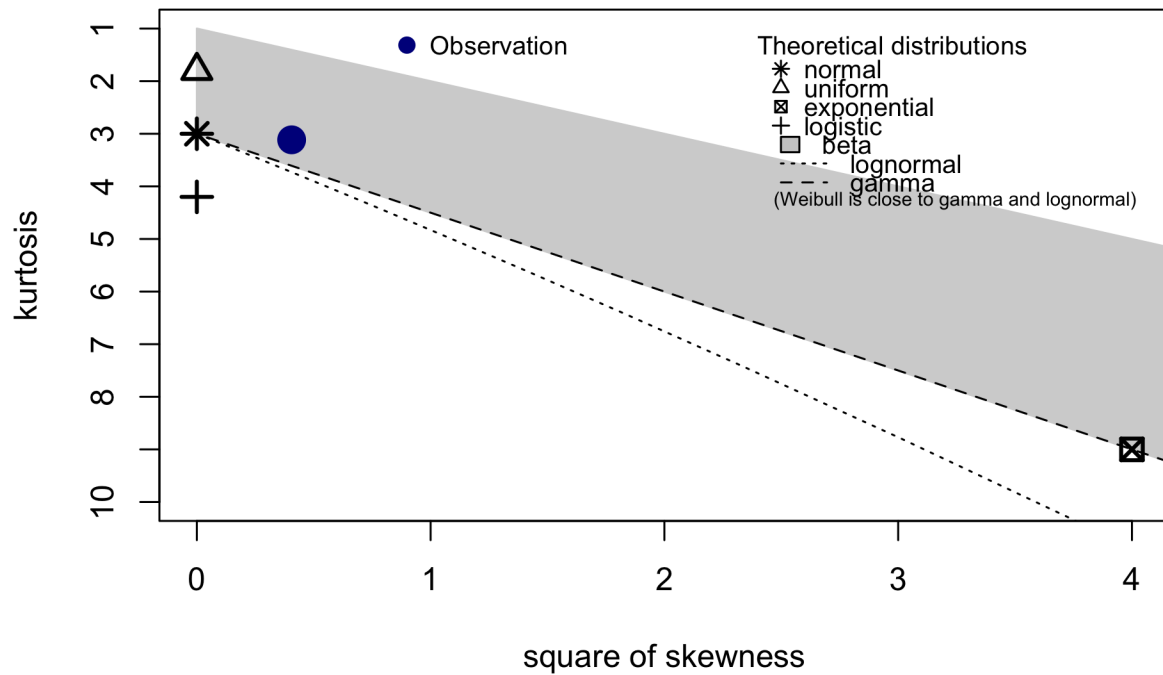
```
#C_a
C_a <- ((0.0042)*60)/8 #https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5666301/ mean girls (11-16 and 16-

#C_o
C_o <- 400 #p.p.m (taking a higher estimate because higher values ar possible when a lot of traffic ect
## all schools are directly on the side of a road (no info for tanzania), so i won't make a distinction

#school1
x_ch1 <- ch %>%
  filter(school == "School 1") %>%
  pull(co2)

descdist(x_ch1, discrete = FALSE) #normal distribution fits well
```

## Cullen and Frey graph



```
## summary statistics
## -----
## min: 499 max: 1661.83
## median: 890.79
## mean: 929.6862
## estimated sd: 211.422
## estimated skewness: 0.6368133
## estimated kurtosis: 3.115236
```

```
fitdistr(x_ch1, "gamma") #get parameters
```

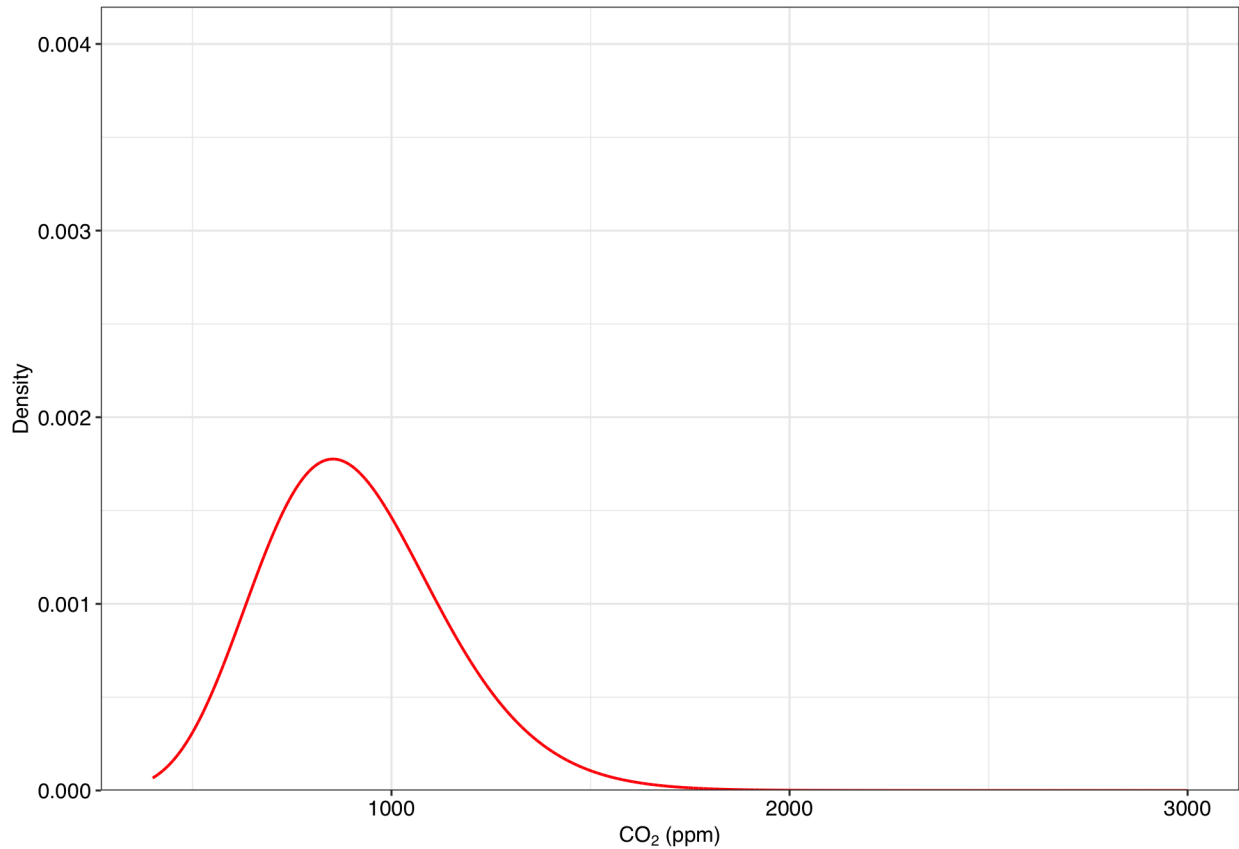
```
##      shape      rate
## 20.0718895973 0.0215899650
## ( 0.4539806165) ( 0.0004939296)
```

```
x <- seq(400, 3000, by = .1)

co2_distr_ch1 <- data.frame(co2 = seq(400, 3000, .1)) %>%
  mutate(prob = dtrunc(co2, spec = "gamma", a = 400, b = 3000, shape = 15.5, rate = 0.017)) %>%
  mutate(country = "Switzerland 1")

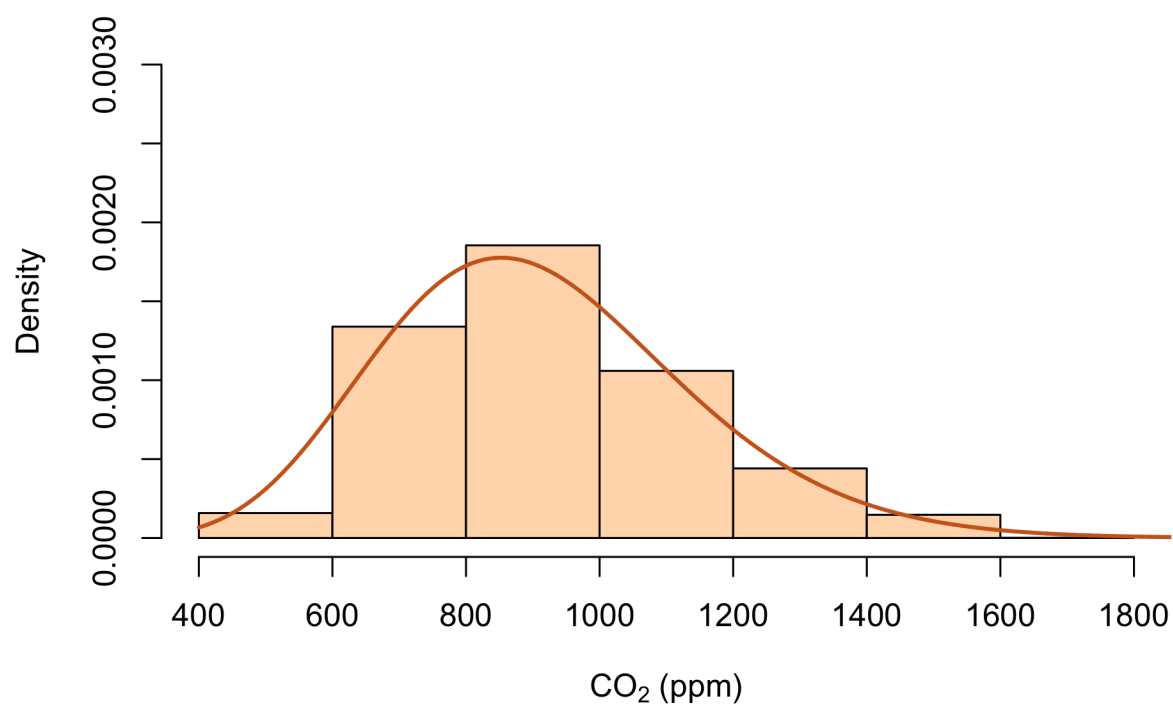
co2_distr_ch1 %>%
  ggplot(aes(x=x,y=prob)) +
  geom_line(color= "red") +
```

```
labs(x = expression(CO[2]*" (ppm)"), y = "Density") +
theme_bw2() +
scale_y_continuous(expand = expansion(mult = c(0, 0.05)), limits = c(0, 0.004)) +
scale_x_continuous(limits = c(400, 3000))
```



```
sample_co2_ch1 <- sample(co2_distr_ch1$co2, 10000, replace = TRUE, prob = co2_distr_ch1$prob) #sample c
sample_f_ch1 <- tibble(co2 = sample_co2_ch1, f = ((co2-C_o)/C_a)/1000000) %>% #sample f
  dplyr::select(-co2)

####histogram / density comparison
hist(loessData_ch1$y, # histogram
  col="peachpuff", # column color
  border="black",
  prob = TRUE, # show densities instead of frequencies
  xlab = expression(CO[2]*" (ppm)"),
  main = "",
  breaks = 7,
  xlim = c(400,1800),
  ylim = c(0,0.003))
lines(co2_distr_ch1, # density plot
  lwd = 2, # thickness of line
  col = "chocolate3")
```

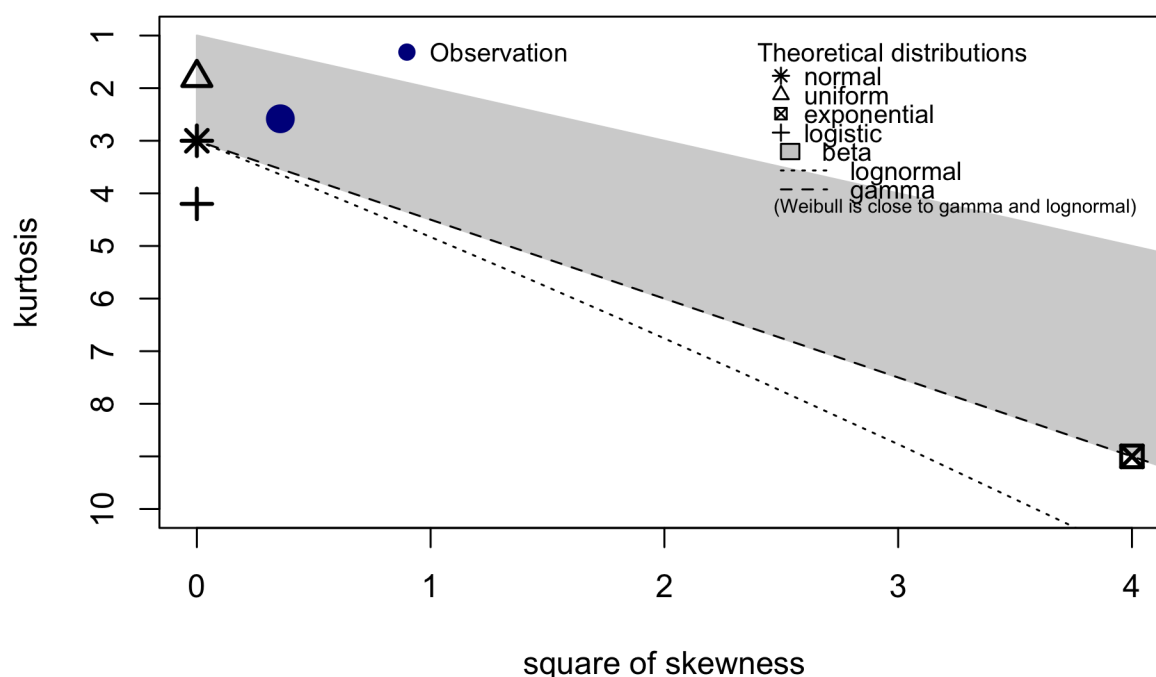


```
#school 2
x_ch2 <- loessData_ch2 %>%
  pull(y) #pull filtered data

descdist(x_ch2, discrete = FALSE) #gamma fits ok
```



## Cullen and Frey graph



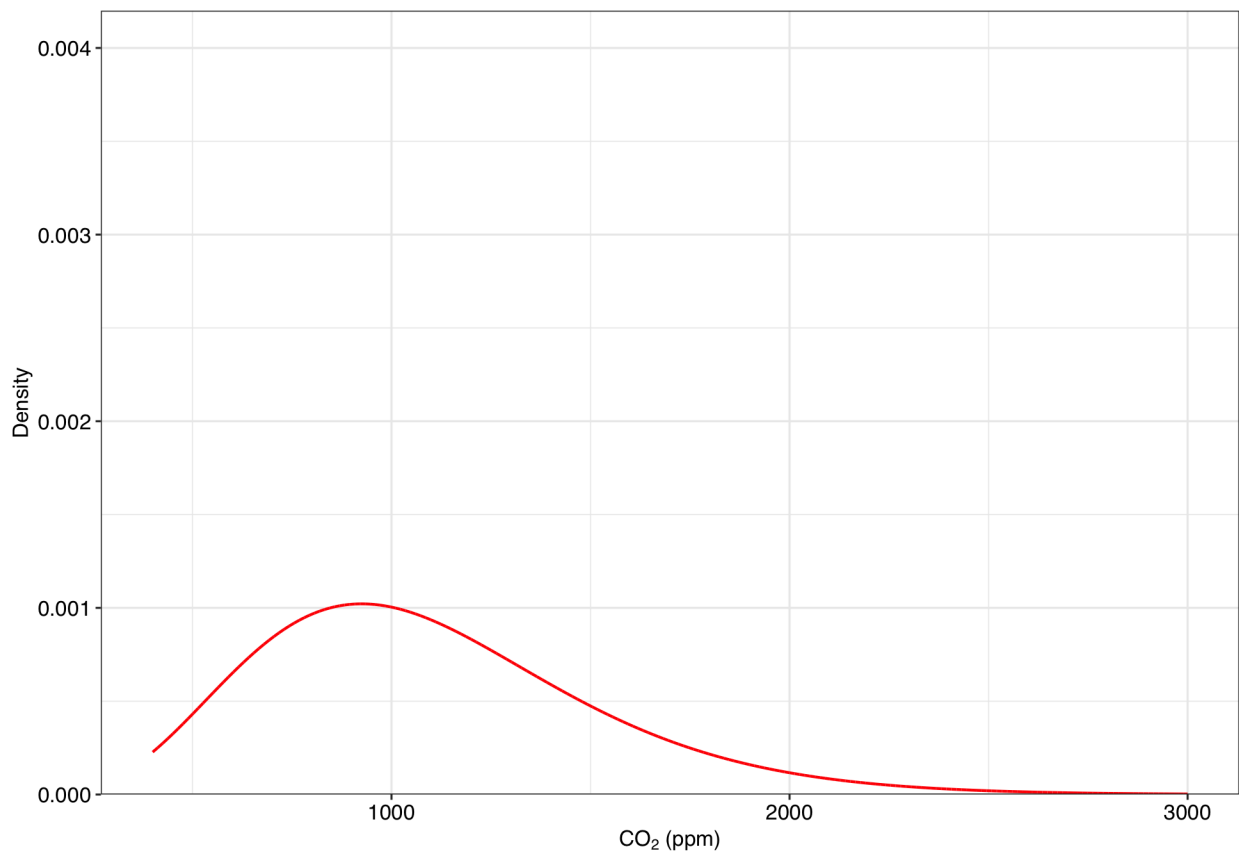
```
## summary statistics
## -----
## min: 549.5165 max: 2346.033
## median: 1120.103
## mean: 1175.967
## estimated sd: 438.1166
## estimated skewness: 0.5976435
## estimated kurtosis: 2.581763
```

```
fitdistr(x_ch2, "gamma") #get parameters
```

```
##      shape      rate
## 7.3808794499 0.0062764348
## (0.1338510849) (0.0001162775)
```

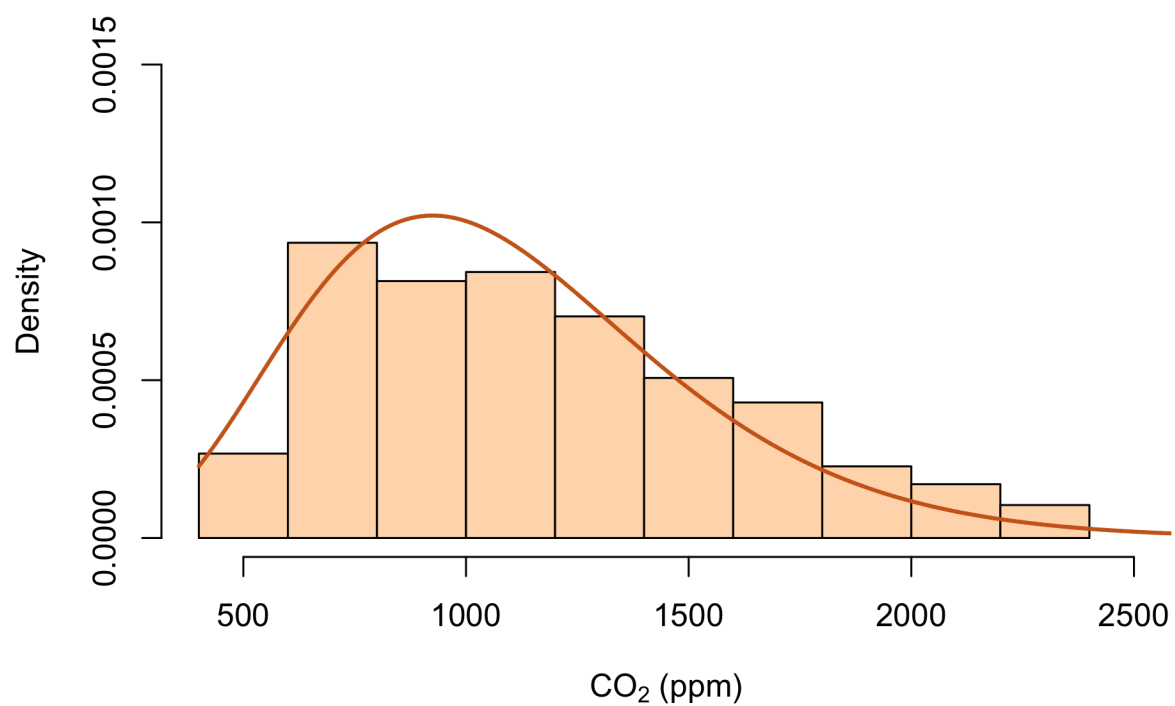
```
co2_distr_ch2 <- data.frame(co2 = seq(400, 3000, .1)) %>% #create data frame
  mutate(prob = dtrunc(x, spec = "gamma", a = 400, b = 3000, shape = 6.55, rate = 0.006)) %>%
  mutate(country = "Switzerland 2")
#7.4
co2_distr_ch2 %>% #plots density
  ggplot(aes(x=x,y=prob)) +
  geom_line(color= "red") +
  labs(x = expression(CO[2]*" (ppm)"), y = "Density") +
  theme_bw2() +
```

```
scale_y_continuous(expand = expansion(mult = c(0, 0.05)), limits = c(0, 0.004)) +
scale_x_continuous(limits = c(400, 3000))
```



```
sample_co2_ch2 <- sample(co2_distr_ch2$co2, 10000, replace = TRUE, prob = co2_distr_ch2$prob) #sample
sample_f_ch2 <- tibble(co2 = sample_co2_ch2, f = ((co2-C_o)/C_a)/1000000) %>%
  dplyr::select(-co2)

####histogram / density comparison
hist(loessData_ch2$y, # histogram
  col="peachpuff", # column color
  border="black",
  prob = TRUE, # show densities instead of frequencies
  xlab = expression(CO[2]*" (ppm)"),
  main = "",
  breaks = 7,
  xlim = c(400,2500),
  ylim = c(0,0.0015))
lines(co2_distr_ch2, # density plot
  lwd = 2, # thickness of line
  col = "chocolate3")
```

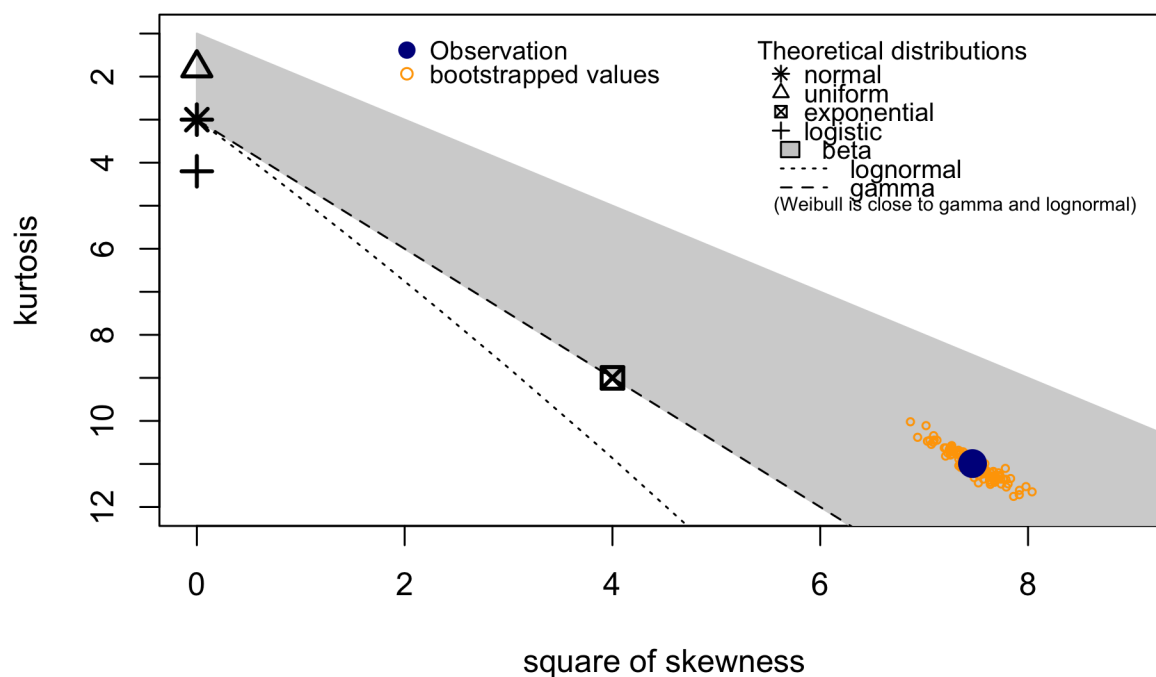


```
#tanzania
x_tz <- loessData_tz %>%
  pull(y)

x_tz <- as.numeric(x_tz)

descdist(x_tz, discrete = FALSE, boot = 100) #gamma fits ok
```

## Cullen and Frey graph



```
## summary statistics
## -----
## min: 460.1963 max: 1497.719
## median: 600.4938
## mean: 644.2189
## estimated sd: 173.3067
## estimated skewness: 2.732294
## estimated kurtosis: 10.99144
```

```
fitdistr(x_tz, "t") #get parameters
```

```
##           m           s           df
## 593.94973711 54.89374964 1.55018887
## ( 1.02944941) ( 1.01107831) ( 0.04266281)
```

```
co2_distr_tz <- data.frame(co2 = seq(400, 3000, .1)) %>%
  mutate(prob = dtrunc(x, spec = "st", a = 400, b = 3000, mu = 593.95, sigma = 80, nu = 1.55)) %>% mutate

plot_co2_tz <- co2_distr_tz %>%
  ggplot(aes(x=x,y=prob)) +
  geom_line(color= "red") +
  labs(x = expression(CO[2]*" (ppm)"), y = "Density") +
  ggtitle("Tanzania") +
  theme_bw2() +
```

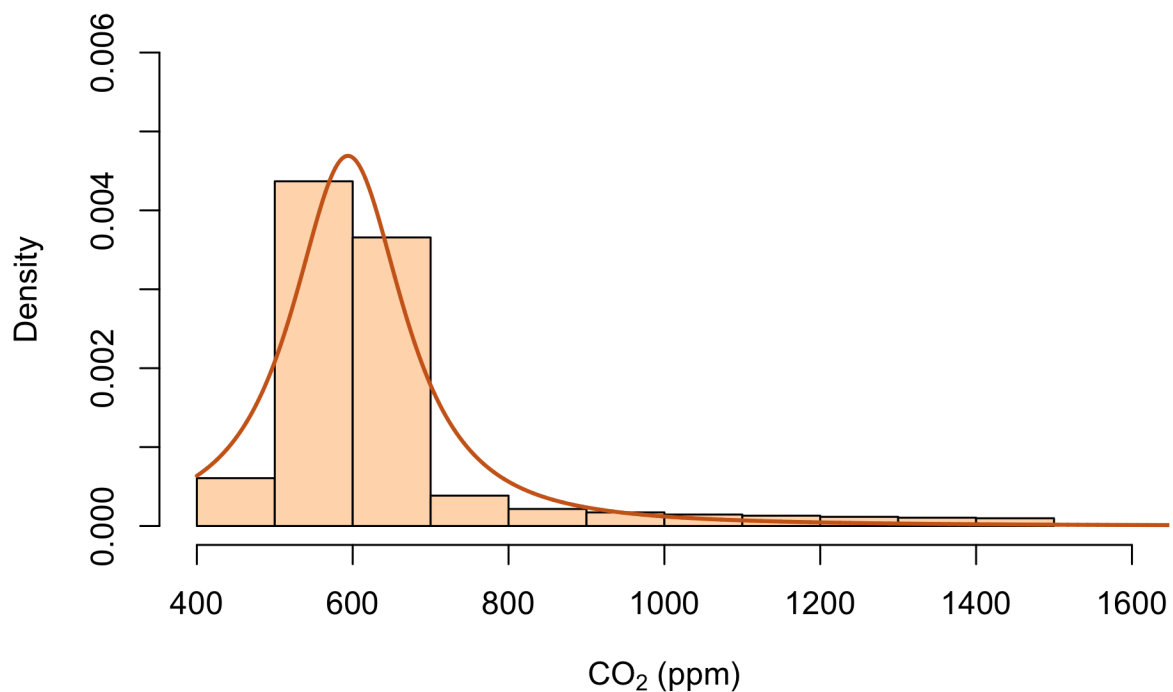
```

scale_y_continuous(limits = c(0, 0.0075)) +
scale_x_continuous(limits = c(400, 3000))

sample_co2_tz <- sample(co2_distr_tz$co2, 10000, replace = TRUE, prob = co2_distr_tz$prob) #sample
sample_f_tz <- tibble(co2 = sample_co2_tz, f = ((co2-C_o)/C_a)/1000000) %>%
  dplyr::select(-co2)

####histogram / density comparison
hist(loessData_tz$y, # histogram
  col="peachpuff", # column color
  border="black",
  prob = TRUE, # show densities instead of frequencies
  xlab = expression(CO[2]*" (ppm)"),
  main = "",
  breaks = 14,
  xlim = c(400, 1600),
  ylim = c(0,0.006))
lines(co2_distr_tz, # density plot
  lwd = 2, # thickness of line
  col = "chocolate3")

```



```

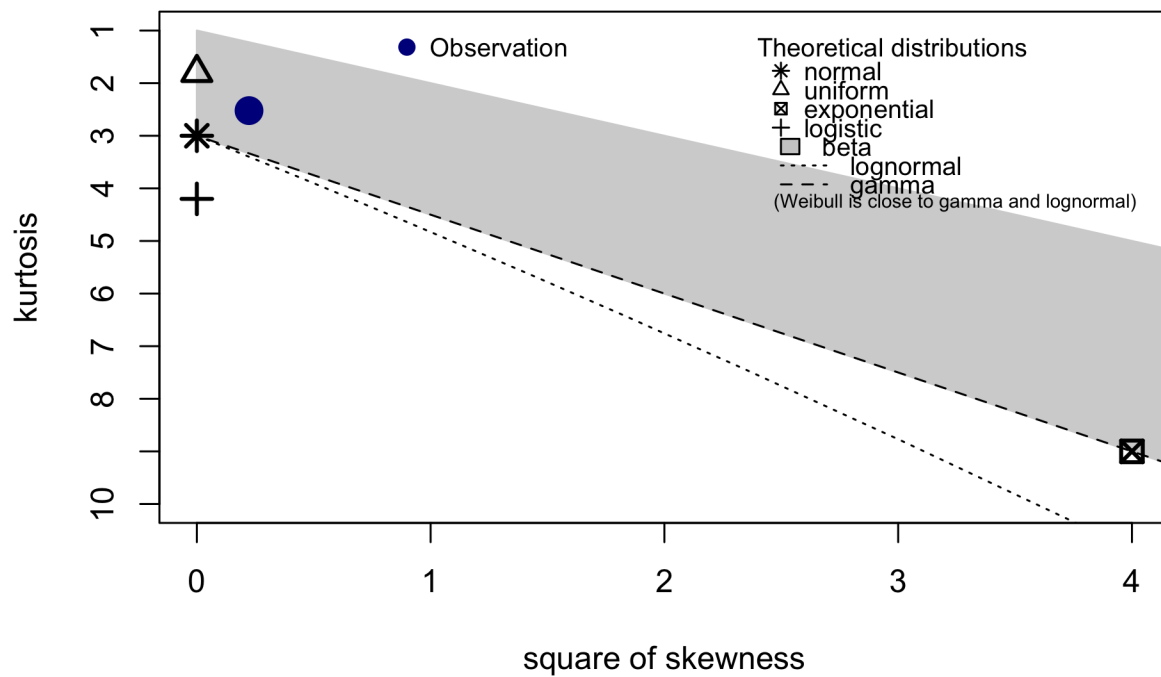
#south africa
x_sa <- loessData_sa %>%
  pull(y)

```

```
x_sa <- as.numeric(x_sa)
```

```
descdist(x_sa, discrete = FALSE) #normal/gamma fits ok -> after comparison --> gamma is better
```

## Cullen and Frey graph



```
## summary statistics
## -----
## min: 418.1935    max: 2952.034
## median: 1375.813
## mean: 1457.681
## estimated sd: 596.2569
## estimated skewness: 0.4724284
## estimated kurtosis: 2.521861
```

```
fitdistr(x_sa, "gamma") #get parameters
```

```
##          shape          rate
## 5.71414583529 0.00392003036
## (0.04226574725) (0.00002930491)
```

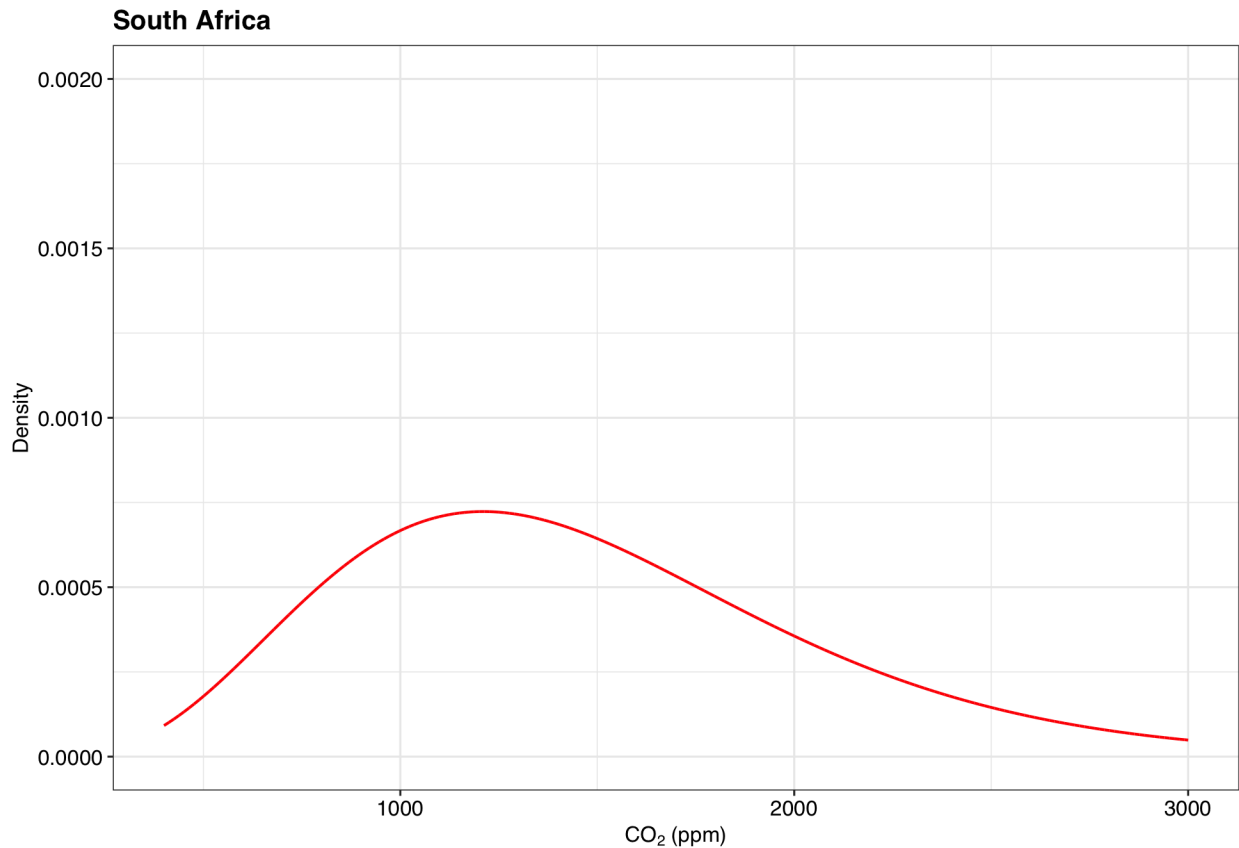
```
co2_distr_sa <- data.frame(co2 = seq(400, 3000, .1)) %>%
  mutate(prob = dtrunc(x, spec = "gamma", a = 400, b = 3000, shape = 5.72, rate = 0.0039)) %>%
  mutate(country = "South Africa")

co2_distr_sa %>%
```

```

ggplot(aes(x=x,y=prob)) +
  geom_line(color= "red") +
  labs(x = expression(CO[2]*" (ppm)"), y = "Density") +
  ggtitle("South Africa") +
  theme_bw2() +
  scale_y_continuous(limits = c(0, 0.002)) +
  scale_x_continuous(limits = c(400, 3000))

```

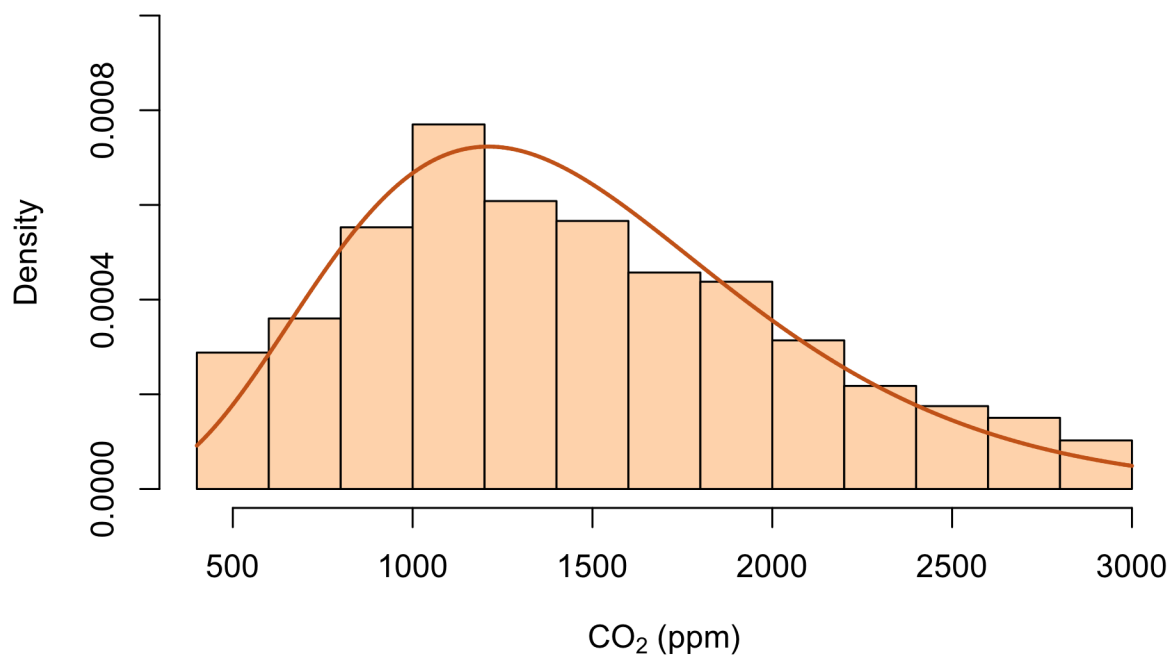


```

sample_co2_sa <- sample(co2_distr_sa$co2, 10000, replace = TRUE, prob = co2_distr_sa$prob) #sample
sample_f_sa <- tibble(co2 = sample_co2_sa, f = ((co2-C_o)/C_a)/1000000) %>%
  dplyr::select(-co2)

####histogram / density comparison
hist(loessData_sa$y, # histogram
  col="peachpuff", # column color
  border="black",
  prob = TRUE, # show densities instead of frequencies
  xlab = expression(CO[2]*" (ppm)"),
  breaks = 10,
  main = "",
  xlim = c(400, 3000),
  ylim = c(0,0.001))
lines(co2_distr_sa, # density plot
  lwd = 2, # thickness of line
  col = "chocolate3")

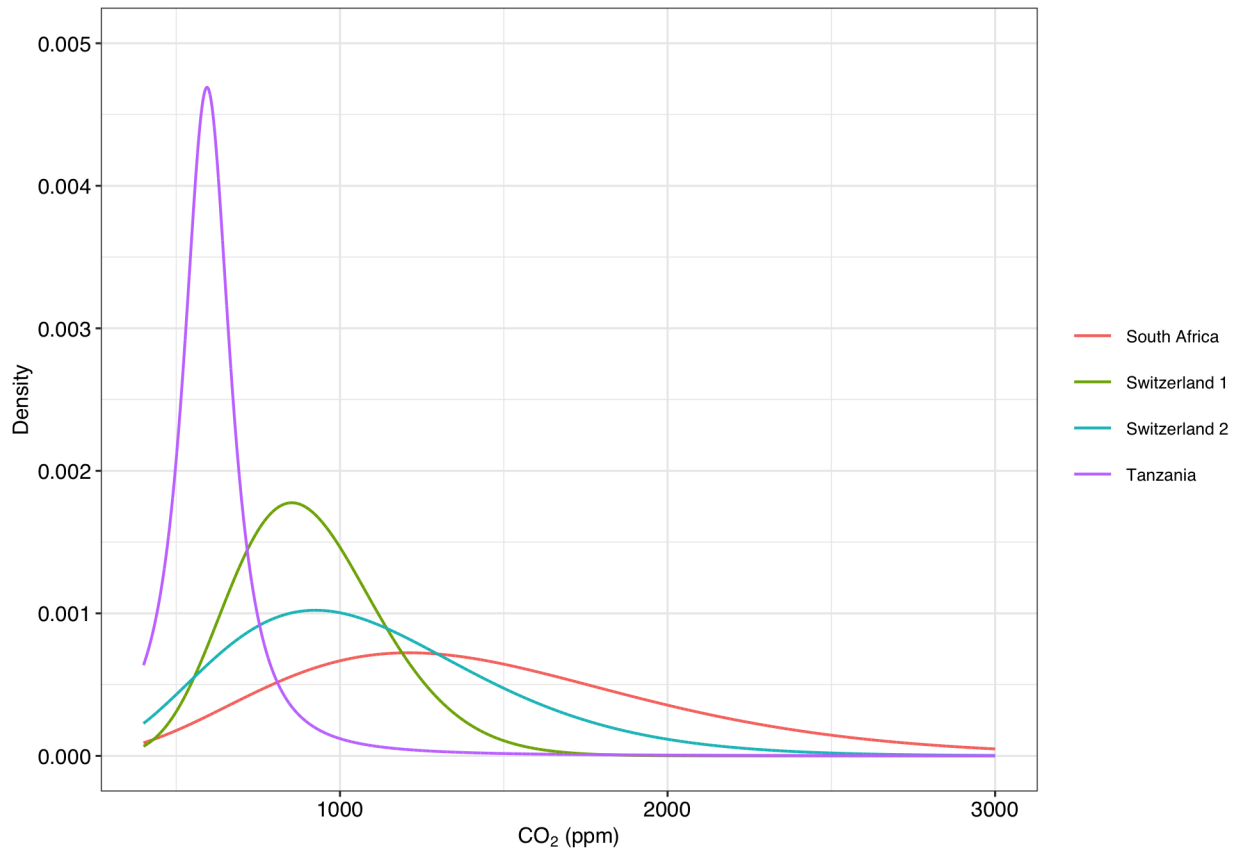
```



```
##parameters: co2
co2_data <- rbind(co2_distr_ch1,co2_distr_ch2,co2_distr_sa,co2_distr_tz)

co2_data %>%
  ggplot(aes(x=co2, y = prob, color = country)) +
  geom_line() +
  labs(x = expression(CO[2]*" (ppm)"), y = "Density") +
  theme_bw2() +
  scale_y_continuous(limits = c(0, 0.005)) +
  scale_x_continuous(limits = c(400, 3000)) +
  scale_color_discrete(name=NULL)
```





```
text_size = 8
```

```
f_bar_ch1 <- ch1 %>%
  mutate(f = ((co2-C_o)/C_a)/1000000) %>%
  summarize(f_bar = describe(f, skew=FALSE))

mean_co2_ch1 <- ch1 %>%
  summarize(co2 = describe(co2, skew=FALSE))

f_bar_ch2 <- ch2 %>%
  mutate(f = ((co2-C_o)/C_a)/1000000) %>%
  summarize(f_bar = describe(f, skew = FALSE))

mean_co2_ch2 <- ch2 %>%
  summarize(co2 = describe(co2, skew=FALSE))

f_bar_tz <- tz %>%
  mutate(f = ((co2-C_o)/C_a)/1000000) %>%
  summarize(f_bar = describe(f, skew = FALSE))

mean_co2_tz <- tz %>%
  summarize(co2 = describe(co2, skew=FALSE))

f_bar_sa <- sa %>%
  mutate(f = ((co2-C_o)/C_a)/1000000) %>%
  summarize(f_bar = describe(f, skew = FALSE))
```

```
mean_co2_sa <- sa %>%
  summarize(co2 = describe(co2, skew=FALSE))
```

## Quanta

I'll use the following studies for calculating the mean parameter:

Riley (1962): 130 patients, q: 1.25 Escombe (2008): 117 patients, q: 8.2 Nardell (1991) : 1 patients, q: 12.5  
 Andrews (2014) : 571 patients, q: 0.89

```
q <- (1.25*130+8.2*117+12.5+0.89*571)/(130+117+1+571) #weighted mean from different studies

#Escombe Table 2
mean_one_inf <- mean(c(12,3,5.5,1.8,18,12)) #mean quanta of pers. which infected one pig
mean_two_inf <- mean(c(2.9,40)) #mean quanta of pers. which infected two pigs

q_inf_persons <- c(12,3,2.9,5.5,1.8,18,40,12,226,52,mean_two_inf,rep(mean_one_inf,11))
q_sample_total_norm <- c(q_inf_persons, rtruncnorm(117-length(q_inf_persons), a = 0, mean = 1, sd = 1))

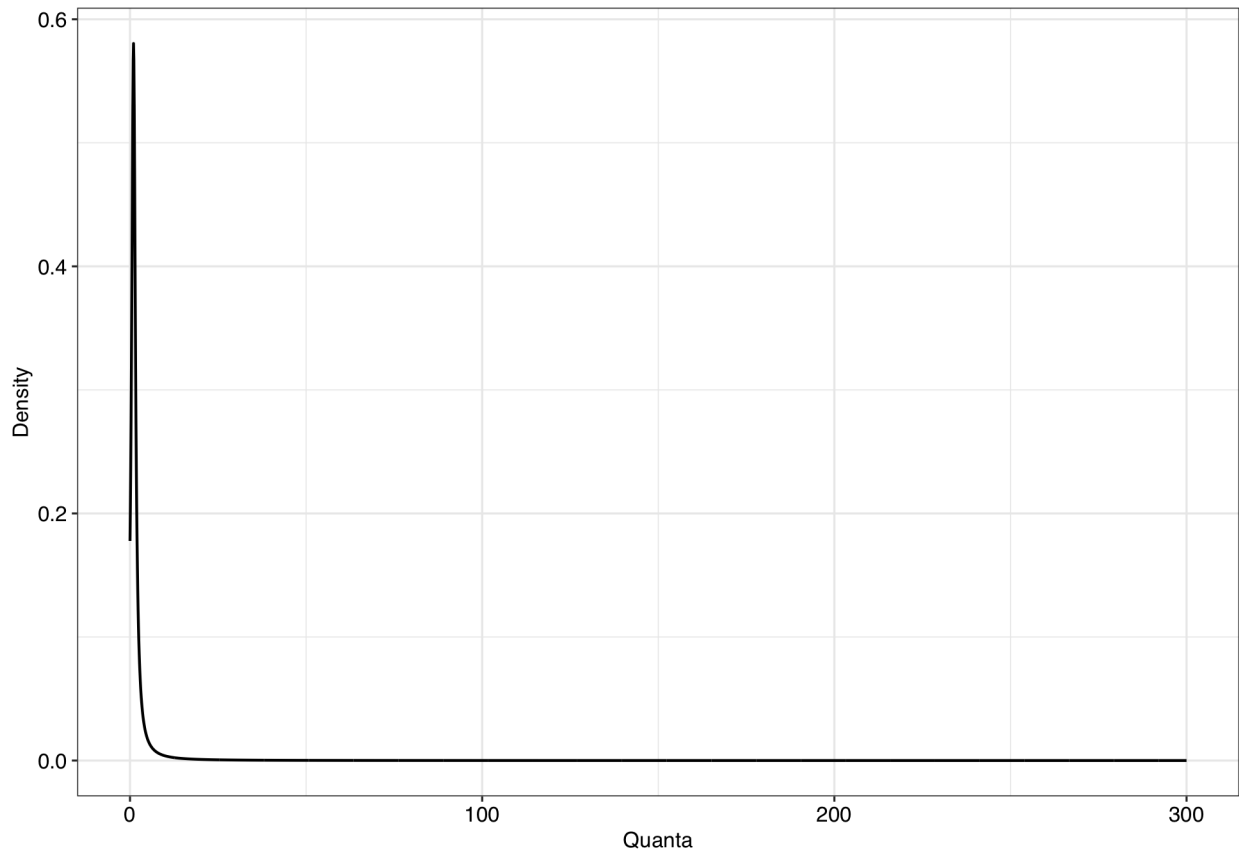
fitdistr(q_sample_total_norm, "t") #get parameters
```

```
##           m           s           df
##  1.10137081  0.65998949  0.89845036
##  (0.10037885) (0.09137468) (0.12845296)
```

```
dq <- function(x) {
  dtrunc(x, spec = "st", a = 0, b = 300, mu = 1, sigma = 0.67, nu = 0.90) #parameters from fitdistr
}

rq_distr <- data.frame(quanta = seq(0, 300, .1)) %>%
  mutate(prob = dq(quanta)) %>%
  mutate(type = "TB")

rq_distr %>%
  ggplot(aes(x = quanta, y = prob)) +
  geom_line()+
  theme_bw2() +
  xlab("Quanta") +
  ylab("Density") #Distribution of the quanta model
```



```
sample_q <- sample(rq_distr$quanta, 10000, replace = TRUE, prob = rq_distr$prob) #sample q for calculation
sample_q
```

```
##      [1]  3.5  1.2  2.0  2.3  1.3  0.9  1.4  0.7  5.3  1.5  1.1  0.3
##     [13]  1.1  1.1  1.0  1.4  0.6  0.2  1.4  0.4  1.2  1.7  0.7  1.3
##     [25]  1.3  0.7  1.1  0.6  0.8  1.9  0.9  0.9  4.6  3.7  2.2  1.4
##     [37]  1.4 10.3  0.4  1.0  0.6 37.0  2.2  1.6 36.8  1.1  1.7  0.8
##     [49]  0.5  0.8  0.8  0.8  3.5  1.0  1.5 28.2  0.8  0.2  0.7  5.6
##     [61]  0.7  0.0  2.2  4.9  1.2  0.3  0.8  0.9  1.5  0.5  1.6  4.8
##     [73]  1.4  0.5  4.2  1.2  0.7  0.7  1.2  1.4  3.9  0.0  2.0  1.1
##     [85]  1.8  1.7  4.4  4.4  0.9  3.6  1.8  0.9  2.2  2.6  0.7  1.7
##     [97] 13.0  0.5  1.2  1.1  2.3  0.3  0.9  0.3  1.5  1.2  0.4  1.0
##    [109]  0.8  1.8  0.4  1.3  0.7  0.9  1.2  0.3  1.8  0.7  3.0  0.7
##    [121]  0.2  0.5  4.0  0.6  2.4  4.2  1.1  1.4  1.9  1.4  1.5  0.9
##    [133]  1.3  3.4  3.1  0.0  2.2  0.5  5.3 17.7  0.9  2.1  1.2  0.9
##    [145]  1.2  0.3  1.0  1.0  1.2  4.2  2.1  4.6  1.0 20.0  0.6  1.1
##    [157]  1.3  0.7  0.5  0.6  0.0  2.1  1.8  1.2  1.1  0.2  1.1  0.7
##    [169] 107.4  2.3 10.2  1.4  0.0  5.2  1.3  1.6  0.9 10.3  1.7  0.7
##    [181]  1.8  1.5  4.3 44.3  0.8  1.0  3.0  1.5  0.8  1.4  1.0  0.1
##    [193]  1.8  0.7  1.0  1.7  1.3  0.9  0.8  0.6  1.2  0.7  0.6  1.0
##    [205]  1.1  9.3  1.4  0.6  1.2  0.9  0.7  1.3 93.9  1.3  2.7  1.4
##    [217]  1.2  0.2  1.8  0.5  1.3  3.7  0.4  1.7  0.8  1.5  0.5  2.1
##    [229]  0.6  1.5  0.1  2.0  1.5  2.5  1.2  1.1  0.9  1.2  0.9  0.9
##    [241]  0.8  3.7  1.2  0.0  2.4  1.5  1.5  1.3  0.2  0.2  1.4 29.9
##    [253]  1.3  0.5  0.1  2.9  1.0  0.1  4.5  1.6  0.1 24.7  1.2  1.3
```

##	[265]	0.6	1.8	0.8	156.6	1.1	1.6	1.4	1.4	22.5	0.5	1.0	0.8
##	[277]	1.3	1.5	0.3	1.3	1.3	0.7	10.6	0.7	6.3	1.1	1.3	0.5
##	[289]	1.9	1.7	2.7	1.2	0.0	1.3	4.4	0.3	0.9	1.2	1.5	0.7
##	[301]	3.8	3.1	1.0	0.0	1.8	1.4	2.5	0.8	10.7	5.9	1.2	1.2
##	[313]	1.5	0.2	2.7	1.4	7.9	1.1	0.8	1.0	0.8	1.4	0.9	1.2
##	[325]	1.6	3.6	4.9	3.1	0.3	0.5	1.4	0.2	1.0	1.6	5.4	5.0
##	[337]	0.7	0.0	1.9	2.4	0.4	2.9	1.9	0.0	1.2	0.6	3.8	3.4
##	[349]	1.0	1.9	6.6	0.0	1.5	1.1	0.1	2.0	1.8	1.4	0.3	0.6
##	[361]	0.9	4.4	1.3	1.6	0.7	9.1	1.1	1.4	1.7	38.8	1.2	0.1
##	[373]	3.2	0.9	1.5	1.3	0.2	0.7	0.3	6.0	23.6	1.1	2.3	8.0
##	[385]	1.5	0.8	0.6	0.7	1.8	0.5	0.5	1.6	1.5	1.4	1.8	37.4
##	[397]	0.1	2.1	0.5	16.1	1.1	11.9	1.5	231.2	1.1	0.4	0.5	0.1
##	[409]	1.0	1.1	2.1	1.7	0.1	1.3	10.2	1.1	1.0	0.2	1.3	1.1
##	[421]	1.4	0.5	0.8	1.5	44.4	5.6	1.2	1.7	2.1	0.5	1.5	1.1
##	[433]	1.2	3.3	0.1	0.1	1.3	1.1	0.8	0.9	1.2	0.8	1.6	0.7
##	[445]	1.2	1.0	0.9	1.5	1.8	1.6	0.0	1.1	1.7	1.1	1.3	0.5
##	[457]	0.5	0.2	1.9	1.5	18.9	2.3	1.4	0.0	3.9	3.0	1.6	0.2
##	[469]	2.6	0.5	3.4	0.4	37.5	0.6	1.6	0.3	1.4	0.9	1.6	0.9
##	[481]	2.2	1.4	1.1	3.2	0.6	0.8	1.2	0.5	2.0	0.9	3.2	1.4
##	[493]	0.9	5.0	1.1	3.0	3.1	1.8	1.5	0.5	1.0	0.5	1.0	1.7
##	[505]	1.5	1.7	3.8	1.2	0.0	0.9	2.7	1.0	0.8	0.3	0.2	3.0
##	[517]	0.9	0.8	1.8	1.5	0.8	9.6	8.5	6.9	0.7	1.0	1.7	0.6
##	[529]	0.9	3.5	1.4	2.6	0.4	2.1	0.9	4.7	1.3	1.5	0.2	40.7
##	[541]	4.4	2.0	1.1	0.9	2.3	1.1	1.4	1.8	1.3	1.3	0.7	0.6
##	[553]	3.6	10.9	1.1	6.4	1.6	0.8	0.9	4.2	11.2	2.2	0.9	1.9
##	[565]	0.4	1.1	1.3	2.5	1.8	1.1	1.5	0.6	1.6	1.3	0.3	1.0
##	[577]	6.0	1.7	1.3	1.5	0.1	2.4	80.4	1.3	1.4	0.1	0.8	1.7
##	[589]	1.4	1.7	1.3	2.2	1.6	1.0	1.5	1.1	0.9	4.6	2.3	3.0
##	[601]	0.8	0.2	1.0	0.5	1.7	0.9	1.5	0.5	0.3	1.4	0.4	2.4
##	[613]	0.3	1.0	2.1	1.3	0.2	1.4	1.0	9.0	0.5	1.7	2.2	0.9
##	[625]	1.5	2.7	1.1	1.7	8.8	4.9	0.5	0.9	0.6	1.3	1.1	1.4
##	[637]	0.6	2.1	1.3	0.8	0.6	1.7	2.5	1.0	0.9	4.8	0.2	1.4
##	[649]	0.9	1.6	9.4	0.8	1.0	0.5	0.7	5.4	2.5	1.1	1.2	1.0
##	[661]	0.8	1.4	2.8	0.7	1.1	0.8	0.4	1.4	1.1	0.6	1.4	0.5
##	[673]	4.2	42.7	1.3	2.7	1.5	1.0	7.5	0.4	1.2	1.2	1.5	0.9
##	[685]	0.6	2.7	1.4	1.2	1.8	1.9	1.3	1.1	0.8	0.1	3.4	37.5
##	[697]	1.8	0.7	4.8	1.7	0.8	1.3	0.7	1.7	1.2	0.3	1.7	0.9
##	[709]	0.9	0.5	0.3	0.7	1.2	1.9	0.2	1.9	0.2	0.5	1.5	1.7
##	[721]	1.1	0.7	1.1	0.6	0.3	0.4	11.6	34.1	2.4	0.1	9.4	1.9
##	[733]	0.7	0.5	0.5	1.1	2.5	0.7	0.5	2.6	1.4	1.2	1.7	10.3
##	[745]	0.6	1.1	0.7	2.0	4.0	1.2	0.3	1.2	2.5	2.1	2.3	1.0
##	[757]	0.8	1.6	1.0	1.3	1.6	1.0	0.3	1.2	25.2	1.2	0.9	1.2
##	[769]	1.0	1.2	1.0	1.0	1.0	0.9	1.6	1.0	2.5	1.1	44.0	9.6
##	[781]	0.7	1.0	1.2	0.1	1.4	0.2	1.4	1.2	3.4	0.4	1.3	1.2
##	[793]	1.0	1.1	1.2	0.9	0.4	1.1	1.5	2.2	0.5	1.9	20.8	0.7
##	[805]	2.2	0.9	0.0	0.5	1.2	6.0	0.7	5.2	1.4	7.4	1.3	0.6
##	[817]	0.4	0.9	16.3	2.9	4.6	1.1	1.1	1.0	0.9	4.1	0.5	1.4
##	[829]	2.7	0.6	2.2	3.9	2.6	1.7	0.6	1.4	1.8	1.1	1.0	47.2
##	[841]	0.3	7.4	1.2	0.6	1.7	1.5	1.0	1.5	3.5	6.3	3.1	2.4
##	[853]	23.8	3.8	1.3	0.9	1.5	1.7	1.1	1.2	2.3	0.4	1.4	0.9
##	[865]	1.5	64.7	1.1	1.5	0.9	1.9	1.1	1.5	1.5	0.9	1.5	2.2
##	[877]	1.2	1.6	0.5	0.6	0.7	1.0	1.6	1.6	0.1	0.7	0.1	1.1
##	[889]	2.0	1.3	3.1	1.0	0.9	1.8	1.3	0.9	1.5	0.9	1.3	22.0
##	[901]	1.7	1.3	2.1	0.5	1.2	0.6	1.0	2.2	18.6	0.5	1.3	0.5

##	[913]	1.0	1.0	1.0	0.6	3.7	1.0	0.6	1.4	0.8	14.2	62.0	2.3
##	[925]	2.2	1.2	2.9	1.6	1.0	0.5	1.3	1.7	0.7	1.2	0.5	0.4
##	[937]	1.0	1.0	1.0	1.1	3.4	1.3	2.3	16.1	6.8	1.1	2.9	1.6
##	[949]	0.9	0.6	0.8	92.6	0.9	2.4	2.5	2.9	2.3	0.2	1.1	1.7
##	[961]	6.1	0.9	0.2	1.0	0.1	0.6	1.4	1.4	0.9	1.2	1.3	0.5
##	[973]	1.1	1.4	1.1	2.0	1.8	1.7	1.5	1.2	0.2	1.5	1.7	0.8
##	[985]	0.9	3.4	0.9	6.7	2.7	0.9	1.1	1.5	2.5	1.0	3.1	4.0
##	[997]	1.1	1.4	1.8	6.6	1.2	1.5	0.6	1.5	4.9	1.0	0.5	1.4
##	[1009]	1.0	0.4	0.5	0.4	1.4	0.8	0.5	1.7	0.9	1.0	2.6	4.6
##	[1021]	2.2	0.6	5.5	1.1	1.8	1.0	0.8	1.2	1.2	22.2	2.3	0.7
##	[1033]	0.2	2.1	2.7	0.7	3.4	2.3	0.4	0.7	1.0	0.8	1.1	2.2
##	[1045]	27.2	0.9	1.0	0.0	1.0	2.3	17.0	0.9	0.9	0.9	0.9	0.2
##	[1057]	1.9	0.5	0.8	0.8	0.5	1.1	0.7	0.9	1.9	0.8	4.8	0.5
##	[1069]	2.0	0.9	1.0	0.0	1.4	3.2	1.0	6.6	0.6	1.0	0.7	0.9
##	[1081]	1.8	0.9	1.6	2.2	1.0	2.0	1.4	1.4	2.5	1.7	0.9	1.6
##	[1093]	0.7	0.0	3.6	0.8	1.2	1.0	1.3	1.1	0.5	1.9	0.3	2.5
##	[1105]	1.9	2.1	1.6	5.3	0.0	1.1	1.1	0.0	0.6	3.0	1.2	2.3
##	[1117]	1.1	1.1	3.6	2.2	5.4	0.9	1.1	1.6	3.3	1.7	1.1	15.4
##	[1129]	0.9	6.9	0.4	1.2	2.8	0.4	2.5	0.4	1.0	1.2	1.6	2.0
##	[1141]	2.5	5.5	55.5	3.0	2.5	8.0	0.3	2.5	1.1	5.7	0.5	1.2
##	[1153]	0.6	0.6	0.3	1.1	4.3	1.3	0.3	21.2	1.1	2.8	1.2	0.6
##	[1165]	1.9	1.7	1.1	1.3	2.6	7.7	0.6	0.2	1.3	1.7	4.5	1.4
##	[1177]	12.0	1.3	1.1	0.8	1.4	1.5	0.9	0.5	2.8	1.3	2.0	0.3
##	[1189]	3.7	4.8	1.1	0.9	0.3	2.3	1.7	2.1	1.2	1.8	0.9	24.7
##	[1201]	0.6	1.5	1.7	0.6	0.5	0.0	0.9	0.6	1.9	1.2	1.1	1.3
##	[1213]	0.5	2.3	1.2	4.2	0.7	16.8	0.0	1.5	0.7	0.4	8.3	0.6
##	[1225]	0.9	40.2	1.6	0.1	1.5	1.6	0.8	1.5	2.3	3.4	1.2	1.4
##	[1237]	0.8	0.9	0.4	1.6	1.4	1.0	1.6	1.1	1.4	0.6	1.2	2.2
##	[1249]	0.4	10.3	1.2	2.6	1.0	1.6	1.0	1.7	0.9	13.4	3.8	1.7
##	[1261]	3.1	1.5	1.9	0.6	2.7	1.2	1.3	3.1	0.8	1.9	0.8	2.3
##	[1273]	1.2	0.1	1.1	1.4	28.9	100.9	0.5	1.1	0.8	1.2	0.5	1.4
##	[1285]	4.2	1.5	1.6	1.1	0.5	3.1	0.9	0.6	1.2	1.3	0.9	2.9
##	[1297]	2.8	1.4	1.3	1.5	3.9	1.7	5.7	1.1	1.4	0.9	2.5	1.4
##	[1309]	0.5	3.0	36.4	1.1	1.4	1.7	1.6	0.9	0.9	27.3	1.3	1.2
##	[1321]	0.4	2.6	1.8	0.2	0.4	0.3	1.3	1.5	1.3	1.2	2.7	1.0
##	[1333]	0.6	1.9	0.6	2.0	1.3	1.0	3.1	1.3	1.1	1.5	1.0	0.6
##	[1345]	24.0	1.5	4.7	1.1	1.4	0.5	2.0	1.0	5.3	1.0	1.9	0.8
##	[1357]	1.1	31.3	0.0	1.0	20.6	0.7	1.8	1.0	1.1	2.4	0.7	1.3
##	[1369]	1.4	4.9	0.4	2.1	2.6	1.4	0.4	14.5	1.9	1.1	0.9	3.7
##	[1381]	0.7	0.0	0.5	0.9	2.1	1.7	1.0	1.2	0.2	2.1	0.2	24.8
##	[1393]	0.4	0.5	1.3	0.5	0.8	0.4	0.3	1.4	0.6	1.2	3.0	3.5
##	[1405]	0.8	1.1	2.1	0.6	1.7	1.4	1.7	0.3	1.7	2.6	2.6	1.3
##	[1417]	1.1	0.1	2.2	25.8	0.8	1.2	0.2	1.9	2.4	0.5	0.9	0.3
##	[1429]	1.3	15.7	0.9	3.5	1.5	6.0	1.2	1.2	1.2	1.2	1.9	0.7
##	[1441]	10.3	12.1	2.3	2.3	10.3	1.5	0.0	0.5	1.3	1.1	1.7	2.7
##	[1453]	3.8	1.8	2.6	1.2	0.9	1.4	0.0	0.5	0.4	0.5	1.4	0.8
##	[1465]	0.5	1.3	6.3	1.4	1.4	1.1	0.2	2.2	2.0	0.9	1.2	2.0
##	[1477]	0.7	6.1	1.4	2.0	1.1	3.8	1.8	2.8	1.4	1.1	0.9	2.0
##	[1489]	1.3	2.6	10.4	1.0	6.7	2.0	2.5	0.5	0.9	0.9	2.8	1.3
##	[1501]	1.2	0.5	0.3	0.3	0.6	0.7	2.5	0.5	1.3	1.0	0.9	0.7
##	[1513]	1.9	0.2	7.1	0.4	1.0	1.4	1.0	1.2	0.7	1.7	1.2	1.3
##	[1525]	1.2	0.6	7.5	1.1	1.2	0.6	0.2	0.8	1.0	0.6	0.0	3.4
##	[1537]	1.2	162.3	1.5	0.9	0.3	0.5	7.2	0.9	4.1	0.8	0.7	1.5
##	[1549]	1.7	0.5	2.7	4.1	1.0	0.3	6.3	0.7	0.2	1.5	2.3	0.5

##	[1561]	0.7	0.4	1.8	0.4	1.2	2.4	0.5	0.5	1.3	1.4	8.5	2.4
##	[1573]	0.4	1.0	0.8	1.3	0.7	0.4	1.2	4.4	8.9	1.2	2.9	1.3
##	[1585]	1.2	1.1	0.6	1.6	1.6	37.2	0.7	1.8	1.4	1.7	0.7	2.5
##	[1597]	1.0	1.9	2.9	109.0	0.6	0.7	0.6	2.3	1.3	1.2	1.3	2.0
##	[1609]	1.3	1.9	1.3	1.2	38.8	1.5	0.7	0.2	1.1	3.5	0.4	0.2
##	[1621]	0.7	1.2	0.9	3.2	1.2	0.6	0.7	2.3	0.0	0.9	0.4	1.2
##	[1633]	1.5	1.8	0.8	1.6	1.3	0.7	2.4	0.7	1.0	1.2	1.1	3.8
##	[1645]	0.3	0.5	0.4	1.4	0.8	1.4	2.7	0.9	1.5	2.3	2.8	2.4
##	[1657]	1.3	1.4	0.8	2.5	1.7	1.8	1.0	5.6	0.8	0.9	0.8	1.5
##	[1669]	1.4	0.8	1.0	1.9	2.6	0.2	1.4	1.4	0.4	1.4	1.2	2.0
##	[1681]	1.1	0.6	0.9	1.0	0.6	1.3	1.4	4.1	2.3	1.6	3.4	1.2
##	[1693]	1.3	1.0	2.5	0.3	1.6	0.8	1.2	1.2	0.8	2.0	0.0	0.5
##	[1705]	4.0	0.8	2.8	0.8	0.8	0.8	1.4	2.6	3.5	1.7	1.0	9.0
##	[1717]	0.8	1.7	0.9	0.2	0.8	1.2	1.2	1.0	0.8	2.3	1.8	1.7
##	[1729]	0.3	1.4	0.6	1.0	0.7	1.8	1.1	1.2	3.0	3.9	0.7	2.4
##	[1741]	0.6	0.4	1.9	0.8	0.9	3.7	0.4	2.7	1.5	0.6	0.6	0.7
##	[1753]	1.3	0.9	1.2	0.4	0.6	1.6	0.3	0.7	16.7	2.8	1.1	1.1
##	[1765]	1.2	0.9	2.1	0.4	0.6	1.3	0.9	0.1	2.9	2.9	1.7	0.9
##	[1777]	0.4	0.6	0.3	0.8	0.7	0.0	0.3	1.2	1.5	1.3	1.9	2.3
##	[1789]	0.8	1.2	1.6	1.4	0.6	4.4	0.7	1.1	3.8	5.9	4.9	1.0
##	[1801]	0.7	1.9	0.7	1.7	1.4	2.2	0.8	0.8	3.2	4.5	2.1	0.4
##	[1813]	1.4	0.5	1.4	0.7	0.9	0.9	2.4	1.2	1.6	1.0	0.7	1.0
##	[1825]	0.7	0.9	7.9	0.4	2.5	0.8	1.9	0.9	1.0	3.2	0.7	1.7
##	[1837]	0.2	1.7	1.1	1.2	0.5	0.3	1.2	2.4	1.1	0.5	0.2	0.8
##	[1849]	2.0	3.4	0.5	11.2	1.1	1.4	1.1	0.7	0.2	0.8	0.7	1.4
##	[1861]	0.9	5.6	1.0	0.8	1.0	0.4	1.3	3.3	8.2	2.5	13.5	1.4
##	[1873]	2.1	0.9	1.0	1.1	14.9	1.7	1.0	1.3	2.6	1.0	2.2	2.0
##	[1885]	15.2	1.1	3.0	3.7	1.6	1.2	1.1	1.6	1.0	1.1	0.5	2.4
##	[1897]	3.2	1.0	0.9	1.1	9.8	1.2	0.1	2.4	1.7	3.1	0.6	1.2
##	[1909]	0.1	3.2	2.5	0.9	1.3	1.5	0.9	0.8	2.8	1.6	0.9	0.8
##	[1921]	1.3	10.9	2.1	11.8	0.6	0.9	1.2	203.1	6.2	0.6	0.8	2.0
##	[1933]	0.8	0.0	1.1	2.4	0.5	0.8	0.8	0.8	0.3	1.4	1.5	4.2
##	[1945]	0.6	1.3	0.6	1.5	1.6	0.5	1.2	0.0	0.7	2.4	1.3	1.7
##	[1957]	1.3	2.1	1.7	0.9	1.0	2.1	0.8	3.0	1.0	0.6	0.4	0.7
##	[1969]	32.2	2.1	0.6	1.3	1.8	1.6	0.0	0.8	1.2	7.1	18.3	0.7
##	[1981]	1.3	3.6	1.0	0.1	0.9	1.4	0.0	1.5	2.0	1.2	5.1	0.2
##	[1993]	1.0	1.6	1.0	1.2	1.1	1.1	0.5	1.7	4.8	3.7	1.3	0.7
##	[2005]	4.1	8.3	4.3	0.2	1.1	0.6	1.5	0.2	2.4	12.8	0.5	6.8
##	[2017]	1.6	1.0	0.6	1.4	2.0	0.1	0.5	1.7	0.3	1.8	1.1	3.2
##	[2029]	1.6	0.7	1.0	0.4	8.4	0.1	1.4	2.5	1.4	1.9	2.9	1.4
##	[2041]	1.0	1.2	1.3	2.2	4.8	1.5	8.6	0.7	1.5	1.3	0.7	0.0
##	[2053]	1.9	1.3	1.1	1.4	4.3	1.4	1.4	2.9	2.2	4.3	11.5	2.3
##	[2065]	0.7	0.9	1.7	2.5	2.5	2.7	1.1	1.7	1.2	0.5	0.7	1.5
##	[2077]	1.3	0.1	2.8	1.3	0.8	1.1	0.6	0.7	0.7	1.7	1.2	2.2
##	[2089]	1.1	0.9	0.9	1.7	0.9	0.9	3.4	3.2	1.3	0.0	0.9	119.4
##	[2101]	1.4	0.8	5.8	1.1	1.2	4.0	3.0	1.1	1.3	3.5	8.4	0.8
##	[2113]	2.1	2.2	0.3	1.5	1.3	0.3	0.0	0.7	0.2	1.9	2.8	0.9
##	[2125]	9.7	2.1	0.6	1.4	1.1	1.4	1.3	1.0	0.2	0.4	1.8	39.1
##	[2137]	2.0	3.6	1.1	1.5	0.2	3.3	0.6	0.5	0.7	1.3	1.2	1.4
##	[2149]	1.6	1.2	0.3	2.0	3.8	0.8	102.6	0.7	1.5	1.2	1.9	0.9
##	[2161]	1.6	2.5	1.8	5.6	1.5	0.7	1.6	1.9	1.0	0.4	2.3	3.7
##	[2173]	0.5	1.4	13.0	16.5	1.7	3.4	0.8	2.4	1.3	0.5	1.4	0.9
##	[2185]	6.0	1.0	0.9	1.6	2.2	1.1	0.2	1.5	0.9	0.5	9.3	2.3
##	[2197]	0.9	0.0	1.1	0.1	1.2	3.6	0.2	1.4	2.1	0.4	4.8	2.2

##	[2209]	0.6	6.1	1.1	1.5	1.3	1.3	4.2	1.2	1.2	2.8	1.5	3.3
##	[2221]	1.6	1.6	0.7	1.2	2.2	3.0	0.4	0.9	4.1	2.8	0.7	0.6
##	[2233]	0.5	1.2	4.1	1.8	0.9	1.0	1.5	1.1	0.6	1.2	0.0	2.3
##	[2245]	1.0	7.8	0.7	0.5	0.2	3.9	0.8	0.0	2.5	2.7	0.9	1.3
##	[2257]	0.3	0.2	0.7	1.2	1.5	3.0	2.2	11.7	0.0	0.6	1.0	0.5
##	[2269]	1.4	0.6	0.2	0.8	0.0	1.2	2.5	2.6	0.8	18.7	0.4	0.5
##	[2281]	0.6	1.8	2.5	2.4	1.0	0.4	1.4	0.8	0.6	1.5	1.5	1.1
##	[2293]	0.2	1.5	88.8	1.0	1.0	0.7	5.5	1.2	1.0	2.7	2.1	1.3
##	[2305]	2.4	0.3	1.9	5.1	1.6	1.6	3.5	43.4	1.9	1.6	1.1	0.6
##	[2317]	1.5	1.5	1.1	0.9	0.6	1.0	2.7	0.8	1.3	1.0	0.4	0.7
##	[2329]	1.3	1.4	2.0	1.5	1.1	4.7	0.6	0.7	0.7	2.1	3.1	0.8
##	[2341]	1.8	1.2	0.1	1.0	0.8	0.6	4.7	0.4	3.0	4.3	9.6	2.0
##	[2353]	0.9	0.6	1.1	3.1	0.7	1.2	1.2	0.4	1.9	5.8	0.2	2.8
##	[2365]	5.5	0.9	1.1	4.5	2.2	2.5	1.3	0.2	0.1	0.6	4.4	0.9
##	[2377]	0.5	3.9	1.2	0.7	0.7	0.0	0.0	1.1	1.5	0.8	0.6	0.3
##	[2389]	1.1	1.3	11.4	0.4	1.3	1.5	0.2	0.4	2.2	2.2	1.3	1.6
##	[2401]	1.3	3.2	1.5	0.9	0.9	0.5	3.0	9.7	1.1	0.8	1.7	2.4
##	[2413]	1.2	1.6	1.5	1.5	1.8	2.2	0.8	1.3	0.8	1.4	10.1	1.0
##	[2425]	2.2	2.8	1.3	2.2	1.2	12.4	30.2	2.1	1.5	1.1	1.2	1.6
##	[2437]	1.5	1.7	3.2	5.8	2.3	0.8	0.6	1.4	0.8	2.0	1.2	0.2
##	[2449]	0.5	122.9	0.1	0.4	0.5	0.4	0.7	2.1	5.7	1.5	2.7	1.0
##	[2461]	1.5	1.5	0.7	0.8	0.5	2.7	0.9	0.5	0.3	0.5	0.9	0.8
##	[2473]	0.4	1.3	1.1	1.3	1.0	3.1	1.2	1.0	1.6	1.2	1.2	1.8
##	[2485]	1.1	7.2	1.3	0.4	2.7	0.8	1.2	2.2	0.1	3.0	4.0	0.0
##	[2497]	1.2	0.6	1.0	2.4	0.4	0.9	0.6	0.3	1.2	1.7	0.4	7.2
##	[2509]	6.2	1.1	1.0	0.9	0.3	6.5	0.1	1.8	2.7	1.7	0.5	0.5
##	[2521]	2.2	1.3	0.9	1.2	1.3	1.5	1.3	1.9	4.5	2.1	0.9	0.7
##	[2533]	1.3	3.9	0.7	1.8	1.6	20.1	0.4	3.0	2.2	1.2	2.5	1.8
##	[2545]	0.1	2.5	2.2	0.5	1.3	1.7	0.5	0.5	3.5	0.7	0.4	0.5
##	[2557]	1.3	1.1	2.1	0.8	0.7	1.4	5.2	1.3	0.7	1.5	1.8	0.6
##	[2569]	2.3	0.8	0.1	0.9	1.6	14.2	1.1	0.8	0.3	0.2	3.1	1.7
##	[2581]	0.2	2.2	5.4	10.5	24.1	1.3	0.7	0.7	2.7	4.3	0.8	0.9
##	[2593]	1.1	0.6	0.6	1.6	1.1	1.8	0.2	0.9	0.1	0.4	16.5	1.2
##	[2605]	1.3	0.4	2.1	1.4	1.0	3.0	3.5	2.0	1.4	0.8	0.4	1.5
##	[2617]	0.5	0.9	0.7	1.7	0.7	1.0	1.3	0.1	2.8	1.0	1.5	1.7
##	[2629]	2.6	1.2	1.5	1.0	0.6	0.7	1.4	0.8	1.1	2.1	1.3	1.8
##	[2641]	0.7	1.9	1.5	0.9	1.3	1.0	2.0	0.8	2.0	1.3	1.9	0.4
##	[2653]	0.2	0.8	1.0	1.8	2.7	3.2	0.7	0.8	0.9	6.9	2.2	1.1
##	[2665]	1.8	0.4	1.8	2.3	0.9	4.1	1.1	1.4	0.6	1.4	2.0	1.9
##	[2677]	3.0	0.9	0.3	0.4	0.9	1.0	1.4	1.9	2.3	1.1	0.5	18.3
##	[2689]	1.4	1.7	0.7	3.8	2.2	0.9	0.5	1.2	1.1	3.7	2.7	11.4
##	[2701]	0.6	1.6	0.5	0.3	0.9	0.7	0.7	2.4	0.4	0.7	0.6	1.2
##	[2713]	1.0	88.4	0.7	5.6	0.4	0.7	1.3	0.1	1.7	1.1	1.5	0.0
##	[2725]	1.2	2.8	0.1	1.3	2.0	0.2	0.0	0.2	19.9	0.8	0.9	2.1
##	[2737]	3.0	0.8	0.3	1.2	0.9	1.9	0.5	1.0	1.3	3.0	1.0	0.4
##	[2749]	2.8	1.5	1.1	1.9	0.5	0.9	0.6	1.4	1.0	0.2	1.1	1.6
##	[2761]	0.8	0.7	2.5	1.6	1.3	10.3	1.0	1.1	1.3	0.6	0.4	0.8
##	[2773]	0.4	0.1	0.3	119.6	1.2	2.1	2.3	2.3	0.4	0.8	2.5	1.2
##	[2785]	0.4	0.5	1.3	1.3	1.0	0.8	1.3	0.4	0.0	0.1	1.6	1.5
##	[2797]	0.8	0.6	1.0	0.0	4.0	0.4	1.0	1.4	1.5	0.4	1.0	1.9
##	[2809]	0.7	1.2	0.5	0.6	2.2	1.2	0.9	3.0	3.2	0.8	1.3	1.5
##	[2821]	0.6	1.5	2.5	1.4	6.3	79.7	3.2	4.5	1.7	0.7	0.6	3.3
##	[2833]	0.4	0.0	0.0	1.1	1.0	0.3	1.2	9.3	1.6	1.2	0.9	0.9
##	[2845]	1.4	2.2	1.6	3.1	0.3	0.6	10.5	1.5	0.0	0.7	0.5	0.8

##	[2857]	3.3	0.3	0.7	0.5	0.6	2.1	1.0	0.7	0.7	0.9	2.7	2.2
##	[2869]	9.2	1.2	1.0	2.4	0.7	1.4	8.1	3.0	4.7	1.2	1.3	3.6
##	[2881]	1.1	1.2	2.2	1.0	3.0	0.0	0.4	1.3	1.5	2.5	0.9	0.7
##	[2893]	1.0	0.8	1.2	1.5	0.6	0.7	1.1	0.5	4.4	1.1	0.8	2.7
##	[2905]	0.9	1.4	3.1	0.2	0.7	1.6	0.1	0.1	1.0	1.0	0.6	1.6
##	[2917]	0.3	6.6	3.3	1.3	1.6	2.1	0.5	0.3	3.5	1.1	0.7	0.4
##	[2929]	1.2	0.0	2.2	1.3	0.5	1.5	0.5	1.4	0.5	2.3	2.7	13.3
##	[2941]	2.7	19.7	1.3	1.2	0.7	0.7	0.8	1.3	0.6	2.5	1.8	2.2
##	[2953]	1.9	1.0	20.3	2.6	2.3	1.3	0.1	1.8	1.2	0.4	2.1	0.4
##	[2965]	1.1	1.4	4.1	1.6	0.2	11.4	0.6	1.2	1.1	0.4	1.0	1.8
##	[2977]	1.4	0.8	1.9	1.0	2.0	0.5	1.2	1.5	0.1	4.8	7.9	1.1
##	[2989]	0.7	0.3	1.5	2.2	1.2	3.5	2.7	2.0	1.4	1.2	0.5	1.4
##	[3001]	0.9	0.8	0.4	2.4	1.0	0.8	0.9	1.3	5.9	1.1	1.1	4.7
##	[3013]	1.3	3.5	0.7	0.8	3.0	0.0	0.7	1.8	1.2	1.0	2.2	0.6
##	[3025]	5.3	2.7	4.3	0.0	0.1	0.6	2.6	0.5	0.1	5.0	0.7	0.9
##	[3037]	1.2	1.5	5.3	1.8	3.0	2.8	0.8	1.6	1.6	0.9	1.2	0.8
##	[3049]	0.0	1.1	0.1	0.9	3.7	0.7	0.6	1.3	5.1	1.5	1.3	1.2
##	[3061]	0.4	0.5	1.4	0.4	2.1	0.7	0.9	0.8	1.0	3.3	0.4	0.4
##	[3073]	1.2	0.2	0.9	0.9	1.2	1.6	5.9	0.1	2.3	1.0	0.9	0.9
##	[3085]	0.2	11.0	0.0	1.2	50.0	7.9	0.9	1.7	1.5	2.9	1.0	1.4
##	[3097]	1.1	6.3	2.4	8.2	1.8	6.6	1.6	1.5	0.1	1.5	1.1	2.2
##	[3109]	2.9	0.8	1.1	3.8	0.4	2.0	2.8	1.3	0.7	1.5	0.7	1.7
##	[3121]	7.5	0.9	6.0	1.1	3.6	2.5	1.0	1.0	0.2	1.3	2.3	2.4
##	[3133]	0.7	0.5	0.0	0.5	0.9	0.1	1.3	0.9	1.6	1.4	0.8	0.3
##	[3145]	39.7	1.5	1.3	1.3	0.5	0.5	1.6	1.3	15.4	0.8	1.4	1.1
##	[3157]	0.6	1.4	1.5	1.1	2.0	0.9	0.5	1.3	1.9	5.3	1.4	6.0
##	[3169]	1.2	0.9	1.1	1.7	1.3	1.0	0.2	2.3	0.8	4.8	8.3	14.3
##	[3181]	1.4	1.9	1.3	0.8	1.3	3.1	0.3	0.4	0.8	1.3	1.3	1.4
##	[3193]	0.3	1.5	0.9	0.7	0.5	0.3	0.5	4.9	1.6	1.4	0.0	1.2
##	[3205]	0.6	7.5	2.3	0.1	0.9	1.6	0.4	1.9	1.3	1.9	3.5	3.0
##	[3217]	0.6	1.5	2.4	2.2	0.8	0.4	0.8	0.7	6.2	0.6	0.4	1.9
##	[3229]	1.2	0.8	2.2	2.9	2.0	1.1	0.2	1.0	1.1	0.9	0.6	1.3
##	[3241]	1.0	2.9	2.3	1.9	1.3	0.8	2.0	1.1	3.0	1.3	1.7	0.1
##	[3253]	0.6	2.2	2.1	0.5	1.4	0.7	25.5	0.9	0.1	0.7	3.2	0.3
##	[3265]	2.7	1.4	1.0	1.4	1.8	1.2	0.2	0.5	1.7	0.5	0.8	1.5
##	[3277]	1.9	0.5	1.0	1.8	1.4	1.0	1.1	0.9	0.6	1.3	0.4	3.5
##	[3289]	1.5	3.0	1.3	15.6	2.3	1.7	1.0	0.5	1.3	1.3	0.9	0.1
##	[3301]	0.8	6.4	1.7	1.1	1.5	0.1	1.2	0.2	2.1	23.1	1.2	1.1
##	[3313]	0.7	0.9	1.2	2.5	1.5	1.1	3.2	7.1	4.9	1.4	0.8	1.6
##	[3325]	3.9	0.5	1.0	0.6	2.2	0.5	1.0	0.4	0.2	1.0	11.4	0.7
##	[3337]	0.8	6.1	1.6	6.2	0.7	1.2	0.8	1.5	0.9	30.7	0.8	0.6
##	[3349]	1.5	2.0	1.6	0.5	0.8	0.3	2.2	1.0	1.0	1.9	0.5	2.3
##	[3361]	12.3	0.8	0.0	21.6	1.0	1.1	1.3	0.6	7.8	0.8	2.0	0.9
##	[3373]	1.0	0.2	0.6	2.3	1.4	0.1	0.1	9.0	1.1	2.2	0.8	0.7
##	[3385]	2.1	1.4	4.5	0.6	3.3	1.5	1.1	1.6	2.8	0.8	2.1	1.2
##	[3397]	2.1	0.9	1.8	2.3	1.0	0.3	2.6	56.7	0.8	0.2	1.1	0.8
##	[3409]	1.7	1.0	0.8	1.7	1.5	1.2	1.6	2.2	0.6	1.0	0.3	1.1
##	[3421]	2.0	2.5	2.2	1.8	6.8	1.5	1.0	1.6	0.4	3.0	3.9	0.4
##	[3433]	1.1	0.1	1.3	0.4	0.6	0.1	7.0	0.9	1.2	1.5	0.9	0.7
##	[3445]	1.3	1.9	1.7	0.8	3.5	0.8	4.0	1.8	1.0	1.1	4.8	0.6
##	[3457]	0.2	43.9	2.8	1.1	0.8	1.2	1.8	1.6	1.7	0.7	0.7	1.3
##	[3469]	3.5	0.5	0.8	5.9	0.8	9.7	0.3	0.9	0.8	1.9	0.7	3.4
##	[3481]	3.1	1.4	3.0	1.1	1.4	1.3	0.2	0.7	0.7	1.3	1.9	0.7
##	[3493]	1.2	1.6	1.5	0.8	1.4	1.6	0.6	1.3	1.1	1.0	2.9	1.6



##	[3505]	0.8	0.8	1.7	1.0	4.4	0.3	1.0	1.0	0.8	2.0	2.3	1.2
##	[3517]	0.6	3.7	2.7	98.5	0.2	0.4	0.3	1.2	3.2	0.3	2.2	1.7
##	[3529]	0.7	1.3	1.3	1.3	1.0	5.4	0.3	2.2	0.8	1.0	2.4	1.0
##	[3541]	0.9	0.7	0.9	0.9	8.9	0.8	3.0	1.5	0.9	0.1	3.1	0.0
##	[3553]	0.5	1.2	0.7	1.0	2.8	1.7	1.5	1.3	1.4	6.4	2.3	1.0
##	[3565]	2.7	0.3	0.1	1.9	0.8	13.5	0.2	6.9	0.3	1.5	1.1	1.4
##	[3577]	0.3	0.5	1.2	10.2	0.8	1.1	1.4	0.5	2.5	1.1	0.0	2.8
##	[3589]	1.2	2.2	1.8	0.7	3.8	0.5	2.5	17.7	2.6	47.3	0.9	3.4
##	[3601]	0.0	0.3	0.3	0.8	1.0	0.0	0.8	1.3	1.1	2.0	1.3	1.3
##	[3613]	1.4	4.8	0.7	0.8	0.9	3.3	0.7	18.9	1.2	2.4	0.8	0.6
##	[3625]	0.6	1.0	2.1	5.3	0.6	0.8	2.8	1.3	0.9	0.5	0.7	1.3
##	[3637]	2.6	1.2	1.1	0.5	1.3	0.0	0.8	1.4	0.5	3.8	1.2	0.2
##	[3649]	3.1	2.0	0.5	1.8	0.8	1.1	1.5	1.8	0.2	0.6	1.0	2.7
##	[3661]	11.6	3.0	3.3	5.9	0.9	0.8	0.8	0.7	1.9	1.7	1.4	0.9
##	[3673]	1.0	0.4	1.3	1.1	1.0	1.1	3.4	0.3	0.9	1.0	1.4	0.4
##	[3685]	1.2	3.0	2.1	0.3	1.6	2.5	2.0	1.6	1.9	1.2	2.2	1.5
##	[3697]	1.8	0.7	1.4	1.1	4.7	1.8	1.1	1.6	0.7	1.4	1.2	0.2
##	[3709]	0.3	1.3	0.9	1.1	1.2	0.9	1.3	3.1	0.8	10.8	1.6	0.6
##	[3721]	1.6	1.7	0.8	1.2	1.6	1.3	4.0	1.6	1.5	2.1	1.1	1.5
##	[3733]	0.9	4.3	1.0	36.5	0.8	5.2	0.2	1.5	1.3	0.6	0.2	9.2
##	[3745]	2.7	1.3	0.9	1.5	1.8	0.9	0.3	0.4	0.9	0.7	1.2	0.6
##	[3757]	0.7	1.4	14.7	1.0	1.9	3.6	1.0	2.7	1.5	0.5	0.7	2.0
##	[3769]	1.1	1.5	7.9	0.9	261.3	1.4	1.0	16.2	1.6	5.0	1.4	0.4
##	[3781]	1.1	1.4	1.2	1.9	1.6	0.8	0.3	4.3	0.4	1.9	1.3	118.3
##	[3793]	1.4	0.3	0.6	0.7	2.9	0.6	1.0	1.3	1.3	0.5	1.6	3.7
##	[3805]	1.2	0.7	1.2	0.5	11.5	0.5	5.3	0.9	2.1	2.0	7.9	2.1
##	[3817]	1.4	0.0	62.6	0.8	0.2	0.8	1.4	1.4	2.3	1.6	1.0	0.9
##	[3829]	0.9	1.1	48.9	0.6	0.5	1.0	1.1	0.6	0.0	0.3	1.9	27.7
##	[3841]	1.2	3.2	0.7	0.0	1.8	0.7	1.0	2.4	5.8	1.7	0.5	0.6
##	[3853]	0.6	0.0	1.9	0.8	0.4	1.4	1.1	1.1	0.0	0.9	6.5	1.4
##	[3865]	0.9	1.1	1.3	0.0	1.0	3.8	0.7	9.2	1.4	1.6	1.9	0.1
##	[3877]	2.0	2.3	5.5	0.6	1.0	0.6	1.4	0.3	0.1	0.9	1.0	0.7
##	[3889]	1.5	0.5	0.8	2.2	0.9	0.5	1.0	7.8	1.3	0.7	1.1	2.5
##	[3901]	4.0	2.0	2.2	2.9	2.7	0.7	0.5	1.2	1.5	1.7	2.7	6.5
##	[3913]	2.1	2.9	0.3	1.1	3.1	4.8	1.9	0.6	2.4	1.1	1.1	1.2
##	[3925]	1.0	0.1	1.7	1.1	4.6	31.1	0.9	5.4	2.2	0.4	4.9	4.8
##	[3937]	1.0	0.9	2.3	0.7	0.6	0.6	1.1	0.7	1.1	0.4	1.2	5.8
##	[3949]	1.6	1.0	0.8	0.4	0.5	1.8	1.0	0.6	1.6	25.1	2.1	0.9
##	[3961]	2.7	0.9	1.3	9.8	1.3	1.6	1.7	1.2	4.3	1.2	0.5	1.3
##	[3973]	0.5	1.2	2.4	4.4	0.8	2.0	1.7	1.4	0.8	0.6	0.8	3.3
##	[3985]	0.5	0.7	4.9	0.8	1.3	0.6	0.7	0.5	3.6	0.5	0.2	1.4
##	[3997]	0.0	2.0	1.8	2.0	0.2	2.1	0.5	0.9	0.4	1.7	0.2	0.3
##	[4009]	0.2	1.9	0.7	0.8	1.1	0.9	4.9	0.9	1.2	1.0	1.4	1.3
##	[4021]	1.0	16.3	0.7	0.5	1.3	7.3	1.6	2.5	1.0	1.0	1.3	6.3
##	[4033]	1.4	0.3	0.8	0.9	1.3	2.0	0.2	0.8	1.4	1.0	0.8	1.8
##	[4045]	1.0	0.5	2.0	2.5	0.1	1.1	1.2	1.8	0.7	1.5	1.1	1.2
##	[4057]	3.2	0.1	26.3	1.0	1.4	1.0	0.6	1.0	0.2	1.3	0.8	1.7
##	[4069]	1.3	9.9	0.4	1.2	0.7	1.2	2.3	1.7	0.9	1.0	0.0	1.1
##	[4081]	0.2	0.9	1.0	1.1	1.3	1.1	1.1	0.8	8.2	1.8	0.4	1.2
##	[4093]	0.3	3.1	1.3	4.3	0.6	1.8	2.6	1.7	2.2	0.4	1.3	2.2
##	[4105]	4.0	0.7	0.9	2.8	0.3	0.9	0.7	1.5	4.5	0.4	1.9	1.5
##	[4117]	0.6	0.7	0.6	0.8	2.8	8.0	9.6	4.4	0.4	0.6	3.8	0.0
##	[4129]	0.1	0.8	2.9	1.4	2.4	1.2	1.0	0.4	0.2	0.9	0.0	13.0
##	[4141]	0.8	0.9	0.3	0.6	2.6	0.7	2.2	0.2	1.6	1.4	2.4	1.1

##	[4153]	0.6	1.8	5.6	1.7	0.6	2.2	1.7	1.8	5.4	0.9	1.2	1.6
##	[4165]	9.1	0.9	0.6	0.9	1.1	2.2	2.6	2.0	1.5	1.4	1.5	1.3
##	[4177]	1.7	1.0	1.0	6.9	1.0	3.7	1.9	0.6	0.3	2.4	0.5	34.2
##	[4189]	1.0	2.2	2.7	34.3	10.0	0.0	17.2	1.7	0.0	0.9	1.3	0.8
##	[4201]	2.0	1.0	3.6	1.0	0.3	1.0	0.9	0.9	1.0	1.0	1.4	1.5
##	[4213]	1.4	0.8	0.1	1.3	0.8	0.2	1.1	0.5	0.9	1.5	3.8	1.6
##	[4225]	0.7	1.5	5.9	0.1	4.7	2.7	0.2	1.7	1.3	15.3	1.5	0.6
##	[4237]	0.8	3.2	0.7	1.0	1.1	1.2	1.2	37.5	1.0	1.9	2.5	2.2
##	[4249]	1.8	2.2	0.8	0.4	9.9	1.0	1.4	0.3	2.9	1.7	0.9	2.7
##	[4261]	1.8	1.0	0.3	1.9	1.2	1.1	10.4	0.0	1.3	0.5	0.3	2.0
##	[4273]	1.1	29.9	20.2	0.7	1.1	0.6	1.1	0.2	0.7	0.4	1.0	1.5
##	[4285]	0.7	1.0	1.0	0.7	1.0	2.4	1.1	1.3	0.9	1.2	0.0	1.1
##	[4297]	0.1	0.7	12.8	0.5	0.2	2.6	0.5	0.6	4.0	0.3	4.8	2.3
##	[4309]	0.6	0.7	0.8	1.1	2.0	21.4	1.0	1.0	1.3	0.6	6.3	0.3
##	[4321]	1.7	0.6	1.1	1.4	1.6	0.6	1.5	2.1	0.2	0.9	1.6	3.5
##	[4333]	2.7	1.7	1.4	1.8	1.8	1.7	73.8	0.3	2.8	1.0	0.6	3.6
##	[4345]	0.7	1.5	3.5	0.6	4.7	7.7	1.8	8.1	6.3	1.7	0.1	1.2
##	[4357]	6.2	1.6	1.2	0.7	1.3	1.8	1.5	5.1	6.6	1.2	11.4	0.8
##	[4369]	1.5	0.5	6.3	1.0	1.2	1.7	3.8	0.9	0.8	0.2	3.1	1.3
##	[4381]	0.6	1.1	0.5	2.2	1.5	7.1	1.5	1.4	1.2	1.0	0.9	1.0
##	[4393]	1.5	1.1	1.5	1.4	1.1	1.3	0.2	1.2	1.0	0.2	1.8	1.4
##	[4405]	0.8	0.4	1.5	2.3	1.1	0.9	2.2	0.7	0.7	0.6	0.1	1.4
##	[4417]	1.4	1.1	1.3	1.3	1.5	1.5	16.0	0.1	1.6	0.7	2.1	0.6
##	[4429]	0.6	1.9	1.7	2.0	1.4	1.5	6.9	1.1	0.6	0.4	1.9	0.2
##	[4441]	1.1	1.3	0.6	0.7	0.9	1.5	3.7	0.8	2.1	0.9	0.5	1.4
##	[4453]	2.1	0.2	0.7	2.0	2.0	1.3	2.1	1.2	6.9	1.3	2.1	209.7
##	[4465]	5.3	2.6	7.6	1.1	0.8	3.3	1.4	1.7	1.6	0.8	4.5	3.2
##	[4477]	4.9	2.6	1.5	1.0	0.7	3.1	2.8	2.5	1.0	1.6	1.2	1.0
##	[4489]	0.7	0.1	1.4	1.2	1.5	1.4	1.8	0.3	2.7	0.7	0.7	1.1
##	[4501]	1.3	0.9	0.7	3.4	1.0	0.7	0.8	1.0	0.0	4.1	0.2	0.6
##	[4513]	2.0	1.0	0.6	2.0	2.2	4.0	0.9	1.9	6.8	2.1	2.1	1.3
##	[4525]	1.0	1.0	0.7	4.5	3.1	0.9	0.0	1.1	0.4	0.7	8.1	1.5
##	[4537]	1.0	6.8	0.6	0.5	0.5	2.1	0.6	1.1	2.9	1.1	1.6	2.4
##	[4549]	1.1	0.0	1.1	0.2	1.0	1.3	1.4	0.2	0.4	1.3	0.4	0.4
##	[4561]	7.1	13.5	1.0	2.1	0.7	1.5	1.1	0.6	1.0	1.3	2.9	1.1
##	[4573]	0.7	1.0	0.7	1.3	2.1	0.6	1.7	0.5	0.9	0.5	1.1	1.4
##	[4585]	0.9	0.6	2.2	0.7	1.2	1.1	1.2	2.7	0.4	1.3	0.0	0.9
##	[4597]	1.5	1.7	0.6	1.6	1.3	1.0	2.2	1.1	1.1	1.4	11.8	1.7
##	[4609]	0.4	1.8	1.2	2.1	4.1	0.5	157.3	1.2	10.8	0.8	0.5	2.6
##	[4621]	1.4	3.9	1.6	16.5	1.5	0.1	0.3	1.3	2.1	1.2	0.7	3.1
##	[4633]	0.9	0.2	3.1	0.3	1.5	1.5	0.5	1.1	1.1	1.2	8.3	1.5
##	[4645]	1.1	0.2	0.3	2.6	1.1	1.3	0.4	1.1	1.2	8.2	1.8	0.3
##	[4657]	1.4	2.6	1.8	1.3	1.4	0.4	1.6	2.3	1.3	0.0	0.8	1.6
##	[4669]	5.7	1.6	0.4	0.8	0.8	1.5	0.1	3.0	1.9	1.9	3.7	0.4
##	[4681]	1.1	1.6	1.3	2.9	0.4	2.0	21.1	4.3	1.0	1.1	0.9	0.0
##	[4693]	0.8	1.1	0.4	1.0	1.1	1.2	2.1	1.8	0.8	0.9	1.8	0.3
##	[4705]	0.9	3.1	3.4	0.7	0.8	2.2	0.8	0.4	1.5	0.4	0.7	1.2
##	[4717]	1.2	1.7	1.2	4.4	0.9	0.7	1.2	1.7	5.6	0.0	0.2	0.8
##	[4729]	1.2	0.7	1.0	1.2	0.7	1.3	1.5	0.4	1.5	0.4	0.6	0.8
##	[4741]	0.2	1.3	0.7	1.7	0.3	0.8	1.7	1.5	2.1	15.4	1.8	2.7
##	[4753]	0.5	7.5	5.7	0.9	0.7	1.4	0.4	0.7	4.4	2.0	1.6	1.1
##	[4765]	1.7	2.1	1.3	1.1	1.4	0.5	1.2	0.5	1.1	1.6	1.1	8.2
##	[4777]	1.6	3.2	2.1	0.8	1.4	0.6	1.6	0.9	5.9	0.2	2.1	0.9
##	[4789]	1.4	0.9	6.8	2.2	0.7	10.7	1.8	15.7	0.6	0.9	0.9	0.1

##	[4801]	0.8	1.2	2.2	5.9	1.1	1.0	0.4	2.2	0.9	11.4	0.2	2.2
##	[4813]	2.5	0.6	1.3	1.9	0.9	1.0	1.0	0.9	25.9	0.6	2.1	1.3
##	[4825]	1.1	0.6	1.0	0.8	1.0	2.1	1.0	0.5	0.5	0.6	0.8	0.8
##	[4837]	1.2	22.7	0.1	1.3	2.1	3.0	1.0	1.3	4.8	0.8	14.3	5.1
##	[4849]	1.0	8.7	1.4	0.3	0.8	1.0	1.0	1.1	0.8	1.1	0.5	1.4
##	[4861]	0.5	0.8	0.6	0.7	2.4	3.8	0.2	0.1	0.5	1.0	0.3	1.0
##	[4873]	0.2	1.0	0.7	8.4	1.1	1.3	8.1	2.5	1.3	0.3	1.0	1.3
##	[4885]	0.6	2.1	0.3	1.1	2.2	1.1	1.5	1.2	1.2	2.1	0.4	11.2
##	[4897]	0.1	0.8	1.1	0.6	1.4	2.4	3.2	0.6	1.8	0.6	2.2	1.7
##	[4909]	1.0	2.8	1.1	16.7	8.1	1.6	0.4	0.5	2.5	2.4	0.8	0.9
##	[4921]	0.5	1.0	1.6	5.5	0.5	0.3	1.0	3.3	1.1	0.8	0.8	2.3
##	[4933]	1.9	1.7	1.0	2.2	1.0	3.0	1.5	7.9	0.3	0.6	0.7	1.2
##	[4945]	1.1	1.7	2.2	0.3	0.8	0.9	9.9	1.7	1.2	1.2	1.3	1.3
##	[4957]	0.2	0.8	3.2	0.5	0.3	80.2	1.0	18.9	1.6	2.3	1.4	0.9
##	[4969]	1.4	0.6	1.5	2.5	1.1	4.2	3.2	2.0	3.5	0.7	1.4	1.3
##	[4981]	2.6	0.9	5.9	1.7	1.0	1.4	1.0	1.5	2.0	0.8	2.6	0.7
##	[4993]	0.3	3.3	1.7	2.8	4.8	1.0	1.0	0.2	0.6	7.1	0.4	1.8
##	[5005]	1.4	2.1	1.9	0.6	1.0	1.2	0.4	0.8	0.9	1.1	0.8	1.0
##	[5017]	0.1	1.6	1.0	6.2	1.7	0.9	0.2	3.3	0.8	2.6	1.0	0.6
##	[5029]	2.5	0.3	1.4	3.8	0.8	1.0	0.5	4.4	1.0	1.6	25.3	0.5
##	[5041]	0.9	1.1	63.8	1.3	1.6	1.7	0.5	0.3	0.0	0.6	0.5	1.4
##	[5053]	2.2	1.1	1.4	0.7	1.6	1.7	8.2	0.8	1.4	0.8	1.2	1.4
##	[5065]	9.1	1.2	0.2	0.4	0.0	0.6	2.0	6.3	1.7	1.0	1.5	0.7
##	[5077]	0.9	2.3	0.8	1.5	1.0	1.3	1.2	2.6	0.6	2.1	2.1	0.2
##	[5089]	0.8	2.8	1.2	1.2	10.3	0.7	4.7	5.3	1.5	0.9	96.6	0.9
##	[5101]	0.8	0.9	1.4	1.3	2.3	1.0	2.7	1.4	2.3	0.8	0.8	2.4
##	[5113]	1.3	2.0	1.9	0.9	3.0	1.3	0.8	3.7	1.4	12.1	1.6	18.0
##	[5125]	1.6	0.9	0.5	0.6	3.2	2.9	0.7	1.3	0.7	2.3	2.0	12.8
##	[5137]	1.2	1.3	0.9	0.9	0.7	1.8	2.4	0.8	4.7	1.4	3.1	1.4
##	[5149]	0.9	1.7	0.9	1.3	1.1	0.8	1.0	1.1	26.9	1.6	1.0	1.2
##	[5161]	0.7	10.5	2.7	0.5	1.2	3.1	0.8	18.6	1.4	0.7	4.2	5.4
##	[5173]	0.6	1.5	1.4	1.4	2.3	2.1	1.8	0.8	0.5	0.0	0.3	35.0
##	[5185]	1.1	1.3	5.8	2.3	0.1	0.6	1.4	1.5	1.0	1.5	1.4	3.3
##	[5197]	7.8	0.6	1.2	1.3	0.9	0.2	0.4	1.3	1.0	3.1	2.9	4.2
##	[5209]	0.9	1.4	0.5	4.2	0.9	0.6	0.9	2.4	1.2	1.5	1.1	1.3
##	[5221]	1.9	0.0	0.5	0.7	1.2	1.4	0.7	3.6	1.7	1.1	2.1	1.0
##	[5233]	1.1	0.7	0.0	1.0	0.1	0.7	0.0	1.4	1.8	2.5	1.0	1.1
##	[5245]	4.5	0.9	0.5	1.4	0.5	15.0	1.3	0.2	0.8	1.3	1.1	1.2
##	[5257]	1.1	1.4	0.3	0.2	0.0	3.6	3.8	1.2	0.9	1.6	0.3	1.3
##	[5269]	10.6	1.3	1.6	0.3	3.8	0.7	1.1	1.9	1.1	1.2	2.2	4.0
##	[5281]	1.2	1.0	1.6	1.5	1.0	1.3	1.3	1.8	0.8	1.1	1.4	0.2
##	[5293]	0.5	0.7	3.8	0.1	1.0	1.2	3.9	2.3	1.0	0.8	3.0	0.7
##	[5305]	0.9	1.6	1.2	1.3	0.4	1.0	13.8	0.8	1.3	1.5	1.3	7.6
##	[5317]	1.6	0.8	1.4	2.3	0.8	1.5	0.8	0.8	1.4	1.6	2.0	0.3
##	[5329]	1.0	32.2	0.1	1.0	0.5	5.7	1.7	0.2	0.3	30.1	0.3	0.9
##	[5341]	0.9	0.9	0.6	3.7	1.8	0.3	1.0	0.9	2.2	9.8	1.2	0.9
##	[5353]	0.5	1.7	0.8	1.2	1.8	2.4	0.9	1.3	31.5	2.4	1.5	2.2
##	[5365]	1.2	0.8	0.9	2.3	0.6	1.8	2.5	1.2	3.9	5.5	4.2	0.6
##	[5377]	2.1	0.9	0.9	1.4	4.3	1.3	1.0	1.4	3.2	0.9	1.5	3.2
##	[5389]	1.6	3.5	0.1	0.1	0.5	2.6	3.1	2.8	1.0	0.9	33.4	1.2
##	[5401]	0.9	2.0	1.7	0.8	1.2	0.6	1.5	1.0	3.9	0.5	0.5	1.9
##	[5413]	1.6	0.5	1.1	2.2	1.3	1.7	0.9	1.3	2.3	2.5	0.8	3.5
##	[5425]	2.9	0.7	2.3	1.8	3.4	3.4	0.1	0.5	1.3	0.9	65.9	0.4
##	[5437]	2.6	2.0	0.5	0.2	0.6	0.5	1.1	1.9	0.2	16.9	0.8	0.1

##	[5449]	1.5	0.3	6.5	0.6	1.1	0.8	5.4	0.9	1.2	1.1	1.4	0.5
##	[5461]	1.9	0.7	2.8	2.5	0.5	1.1	1.3	1.0	200.2	2.2	0.9	0.8
##	[5473]	2.1	1.1	0.1	1.3	1.4	1.1	9.5	0.5	2.0	1.8	1.3	0.4
##	[5485]	1.0	0.1	2.6	11.9	3.6	2.1	0.6	1.7	1.6	0.3	0.9	1.3
##	[5497]	0.5	0.9	4.3	2.4	1.8	4.2	0.9	1.4	0.7	1.7	2.2	2.4
##	[5509]	1.1	4.0	1.1	0.7	2.7	1.2	1.3	0.6	3.1	1.3	4.5	5.6
##	[5521]	1.0	0.4	0.6	0.0	1.8	0.9	0.2	0.9	19.9	1.0	2.1	15.4
##	[5533]	2.6	1.5	0.7	0.8	0.7	0.8	1.7	0.7	0.4	0.4	2.2	2.7
##	[5545]	0.4	1.5	4.0	0.8	3.0	0.9	0.6	0.4	0.7	1.1	0.6	1.4
##	[5557]	1.0	1.7	1.0	1.0	1.0	1.9	2.4	0.7	1.2	2.3	1.9	2.5
##	[5569]	1.3	2.8	0.7	1.2	0.6	2.2	1.3	0.6	1.7	2.8	1.3	0.3
##	[5581]	1.6	2.1	1.5	1.1	2.2	0.5	2.5	1.2	3.0	0.1	0.9	3.7
##	[5593]	0.9	10.6	3.4	0.3	2.3	1.6	2.4	4.1	1.8	1.2	1.3	1.5
##	[5605]	0.4	3.4	0.1	3.3	5.1	1.0	0.2	0.7	0.4	1.6	1.2	6.2
##	[5617]	1.2	1.1	1.2	0.9	0.7	1.2	2.0	0.8	1.2	6.8	1.2	0.6
##	[5629]	1.0	0.7	1.5	0.9	1.4	0.9	1.6	1.2	0.9	2.8	0.9	1.1
##	[5641]	0.3	0.3	1.9	0.6	1.4	2.4	1.0	1.1	5.3	1.1	1.3	1.3
##	[5653]	1.2	1.0	1.6	7.7	0.9	3.7	1.3	1.6	2.1	0.1	1.4	1.4
##	[5665]	1.5	1.1	1.2	4.2	1.2	1.6	0.7	6.1	1.7	3.3	0.6	0.7
##	[5677]	0.6	0.6	0.6	1.0	0.6	1.0	3.1	0.8	1.1	2.9	1.5	21.6
##	[5689]	0.0	0.2	1.8	1.2	1.0	0.7	0.4	0.5	0.7	0.9	0.9	1.1
##	[5701]	1.1	8.5	1.6	0.1	0.7	0.9	2.7	4.9	5.2	1.3	1.0	1.2
##	[5713]	1.4	0.0	1.2	1.0	1.8	1.0	1.1	0.4	0.9	0.4	2.2	1.7
##	[5725]	2.0	1.1	0.4	0.8	1.6	0.7	1.2	5.7	2.0	1.0	1.7	1.1
##	[5737]	0.1	6.1	0.9	1.2	0.3	0.4	0.8	1.6	1.1	0.9	1.1	6.0
##	[5749]	1.1	0.7	0.0	1.8	0.7	1.8	0.9	0.9	0.6	1.0	0.5	1.7
##	[5761]	1.6	0.5	1.9	1.0	0.8	2.6	8.3	0.7	1.0	4.6	7.1	2.0
##	[5773]	1.0	15.4	1.1	1.0	5.0	0.5	1.8	2.8	0.8	1.3	0.9	0.7
##	[5785]	17.2	0.9	1.2	1.7	0.3	5.6	1.4	6.0	0.8	1.3	1.0	2.5
##	[5797]	1.1	0.9	0.6	1.0	0.9	0.1	1.1	0.6	0.8	1.3	2.5	1.3
##	[5809]	3.0	0.8	3.3	1.5	0.6	0.8	3.7	1.2	5.7	1.7	1.7	23.6
##	[5821]	1.0	0.8	7.8	0.4	1.2	3.0	1.3	1.6	1.4	1.2	0.7	1.0
##	[5833]	2.4	0.5	2.2	0.3	0.6	0.6	1.9	1.0	1.1	14.1	0.6	0.2
##	[5845]	1.3	14.6	2.5	1.2	0.2	18.9	1.7	3.4	2.1	0.8	2.6	1.5
##	[5857]	1.8	0.9	1.8	1.3	4.1	0.3	3.3	0.9	0.7	1.0	0.0	0.5
##	[5869]	1.2	1.9	8.2	1.1	1.0	4.7	0.0	1.2	1.3	0.6	19.6	1.5
##	[5881]	3.3	1.1	0.8	1.3	2.6	1.4	0.7	0.1	1.1	5.0	0.4	1.2
##	[5893]	3.3	1.6	0.5	0.9	2.3	0.4	1.8	1.0	3.4	0.7	0.8	3.6
##	[5905]	1.0	3.2	0.3	0.4	1.0	1.4	1.5	0.9	1.8	1.4	3.5	2.0
##	[5917]	1.6	0.3	6.3	0.1	0.4	0.3	4.3	3.5	1.8	0.5	0.0	5.9
##	[5929]	1.2	0.8	1.0	1.0	1.2	3.1	13.0	1.0	2.2	6.6	0.4	0.7
##	[5941]	1.3	2.3	1.0	0.7	1.5	0.7	0.6	0.7	1.4	5.0	0.7	6.9
##	[5953]	1.5	0.1	0.6	11.9	3.5	1.0	1.6	0.5	1.8	0.6	3.4	0.9
##	[5965]	1.0	0.8	1.0	1.3	2.2	0.9	2.6	2.6	0.0	1.3	0.4	0.8
##	[5977]	0.4	1.0	0.0	1.1	1.0	1.2	1.0	1.3	0.8	1.4	1.7	0.7
##	[5989]	0.9	0.7	1.0	0.7	3.2	1.2	9.9	0.9	2.5	0.5	4.7	1.4
##	[6001]	1.0	4.3	1.5	1.5	0.6	25.2	5.3	0.8	0.8	3.8	0.7	0.3
##	[6013]	0.3	1.4	2.4	1.9	1.5	1.0	7.9	40.2	1.0	4.1	1.1	1.6
##	[6025]	1.2	1.5	0.5	1.1	15.0	1.2	2.1	4.8	4.2	0.6	2.4	0.3
##	[6037]	0.1	3.2	0.1	2.7	1.5	1.5	0.9	1.0	2.9	2.7	1.3	0.4
##	[6049]	1.1	2.9	1.6	1.6	2.4	1.0	0.8	156.8	2.0	0.7	1.0	4.0
##	[6061]	4.1	0.5	0.6	3.0	4.0	1.2	2.2	1.4	0.4	0.4	0.6	2.0
##	[6073]	1.0	1.0	0.6	0.5	2.9	0.2	1.5	1.0	1.3	0.6	0.6	0.5
##	[6085]	0.3	3.3	0.5	0.7	1.8	1.9	0.9	2.4	0.9	0.7	2.6	1.6

##	[6097]	1.2	1.4	3.4	0.2	0.5	0.8	1.4	0.5	1.1	7.8	0.5	0.1
##	[6109]	2.4	0.6	5.5	2.0	0.4	1.3	1.4	0.7	1.1	0.4	5.4	2.9
##	[6121]	6.9	1.4	8.2	1.9	1.1	0.9	1.3	1.6	0.8	3.4	14.5	1.8
##	[6133]	0.7	0.1	0.9	0.6	1.0	1.6	0.8	0.3	0.5	1.7	0.4	1.3
##	[6145]	0.0	1.4	0.5	0.5	0.8	0.3	0.8	1.5	0.7	4.7	0.8	1.2
##	[6157]	1.0	1.8	2.4	1.0	0.5	0.9	1.7	0.3	0.9	7.8	0.2	0.4
##	[6169]	3.2	0.6	1.2	4.7	0.7	0.6	1.3	0.4	1.9	1.6	0.6	0.6
##	[6181]	2.1	0.5	0.8	1.6	1.2	0.7	0.8	0.3	1.0	1.7	8.8	0.4
##	[6193]	1.1	1.1	14.4	3.8	0.7	0.7	0.0	2.1	5.0	0.3	1.4	0.0
##	[6205]	3.5	2.6	1.6	2.0	0.6	0.8	1.1	5.6	1.4	0.6	1.2	0.6
##	[6217]	3.3	1.3	0.4	0.2	0.1	1.2	2.4	1.2	1.1	1.2	2.1	0.6
##	[6229]	0.9	0.5	1.5	1.1	0.4	7.4	6.1	0.6	2.5	1.0	0.9	2.3
##	[6241]	0.3	0.6	1.2	0.2	0.7	0.2	0.7	0.9	1.0	1.7	0.3	1.3
##	[6253]	1.0	1.3	2.0	0.3	0.6	0.6	0.8	1.4	2.0	0.3	1.3	1.2
##	[6265]	1.0	9.0	1.4	6.1	0.1	1.2	0.7	1.8	0.4	4.3	1.0	1.1
##	[6277]	7.1	1.4	1.3	0.8	4.7	0.5	2.0	1.4	1.4	1.1	0.3	0.9
##	[6289]	0.9	2.2	1.2	1.1	1.3	3.2	0.3	1.0	1.2	0.8	0.6	0.3
##	[6301]	2.2	1.0	0.9	0.6	7.5	1.7	1.0	0.7	8.0	0.3	1.1	1.3
##	[6313]	0.1	0.7	0.4	1.4	1.1	1.6	1.1	4.3	1.3	0.0	1.4	1.2
##	[6325]	2.1	8.4	1.6	1.3	1.0	1.5	0.5	0.0	1.1	1.7	1.0	1.0
##	[6337]	1.6	0.9	1.3	0.6	1.9	0.4	0.1	0.7	0.8	0.1	0.8	2.8
##	[6349]	1.9	1.3	1.4	0.9	2.2	0.3	1.3	1.2	4.9	0.7	1.1	0.4
##	[6361]	0.0	138.6	1.9	5.3	6.2	26.8	18.0	1.7	1.3	1.7	1.3	5.6
##	[6373]	0.5	2.6	0.6	1.0	1.2	3.6	1.2	0.2	1.7	1.5	0.5	1.1
##	[6385]	1.4	0.4	0.6	44.2	0.7	0.4	1.0	0.7	2.3	0.9	1.0	1.0
##	[6397]	0.6	1.1	11.6	0.7	0.6	2.4	0.0	4.7	0.1	1.7	0.8	2.0
##	[6409]	0.0	1.6	1.0	0.9	1.5	1.0	0.8	1.4	1.0	1.9	0.8	1.7
##	[6421]	5.8	1.0	0.0	0.2	0.1	0.9	0.7	0.8	1.2	0.8	0.6	1.2
##	[6433]	3.9	2.5	0.6	0.5	1.0	0.9	1.3	1.4	1.0	4.1	0.9	0.9
##	[6445]	0.3	1.7	5.2	1.5	41.3	1.3	3.2	2.5	0.5	0.2	13.6	1.6
##	[6457]	1.1	0.1	1.9	21.1	1.4	0.6	1.1	0.3	1.0	1.5	2.1	43.3
##	[6469]	2.4	0.6	1.4	0.7	5.1	1.0	2.3	0.8	0.7	2.0	2.0	0.8
##	[6481]	0.9	1.8	6.9	0.7	0.7	1.5	2.3	4.7	0.4	2.4	1.1	1.2
##	[6493]	2.4	2.3	0.7	1.0	0.5	0.9	0.5	0.8	1.4	1.9	0.7	5.4
##	[6505]	2.7	0.0	1.0	0.1	6.1	0.1	3.3	1.4	3.4	0.1	0.2	1.0
##	[6517]	0.9	1.4	1.2	0.3	1.3	1.3	1.7	1.0	1.5	1.3	0.0	187.9
##	[6529]	1.4	0.7	0.4	0.5	0.0	1.9	2.2	0.2	0.1	1.1	0.2	0.8
##	[6541]	1.8	2.4	2.1	1.5	0.9	1.4	0.9	0.5	1.2	0.0	2.3	1.8
##	[6553]	1.1	0.8	0.5	1.5	1.0	1.4	1.3	18.0	0.5	0.0	0.7	4.2
##	[6565]	1.1	2.8	0.6	0.9	1.4	0.8	1.0	0.1	2.7	1.7	2.5	3.4
##	[6577]	4.3	3.2	0.1	1.4	5.1	0.7	1.3	2.9	1.5	1.0	0.6	0.7
##	[6589]	0.1	0.7	0.2	0.7	4.2	2.0	11.1	1.1	0.7	1.2	5.3	1.0
##	[6601]	2.7	3.6	0.6	17.0	1.1	0.6	2.4	1.3	1.0	0.7	1.0	1.2
##	[6613]	5.6	0.4	0.7	1.7	1.1	11.9	1.3	1.8	1.5	0.1	0.9	1.6
##	[6625]	0.6	0.4	2.8	1.7	1.2	0.2	0.5	1.5	2.4	2.9	1.8	0.5
##	[6637]	1.4	2.9	1.3	8.1	1.4	0.0	0.8	0.4	0.3	1.7	0.8	1.2
##	[6649]	1.8	1.2	1.8	1.1	0.3	8.0	0.7	1.8	1.6	0.5	0.1	1.1
##	[6661]	0.4	1.7	1.9	1.2	2.2	3.3	1.2	1.1	0.5	1.0	1.3	0.6
##	[6673]	0.5	7.2	4.6	0.9	1.0	1.0	0.7	26.7	1.1	1.8	1.3	0.5
##	[6685]	1.0	1.1	1.1	0.4	0.9	1.4	1.2	3.5	3.1	0.0	1.0	0.7
##	[6697]	2.0	15.8	2.4	1.3	1.1	0.4	1.3	3.1	2.1	2.4	0.6	0.4
##	[6709]	10.3	0.7	0.2	1.3	1.8	1.1	0.0	0.8	1.0	0.3	0.3	1.3
##	[6721]	1.7	1.5	0.6	0.9	1.8	0.4	0.8	1.2	1.3	0.5	1.4	1.2
##	[6733]	0.5	1.2	0.5	2.9	0.9	1.6	2.2	1.3	0.9	1.9	2.3	0.5

##	[6745]	1.6	2.7	0.5	0.1	0.6	4.2	0.3	1.6	0.8	1.6	0.7	0.7
##	[6757]	0.6	1.8	2.1	1.0	2.0	1.5	0.0	2.1	0.8	1.9	0.8	1.2
##	[6769]	0.8	2.3	0.7	0.9	1.1	1.0	4.0	0.3	1.0	1.8	0.0	0.9
##	[6781]	1.4	0.2	0.6	0.8	0.6	1.6	0.6	1.2	8.2	1.3	0.4	0.8
##	[6793]	2.7	1.3	2.8	1.1	1.0	3.2	1.0	2.8	0.6	0.2	1.1	7.0
##	[6805]	0.9	2.1	11.4	1.1	0.7	1.1	1.2	1.5	2.7	1.1	1.1	0.8
##	[6817]	0.7	31.6	0.5	2.1	2.2	3.2	1.3	0.0	1.9	0.5	0.5	0.9
##	[6829]	0.8	0.5	6.2	1.6	0.7	0.9	1.1	2.3	4.4	0.3	1.2	1.9
##	[6841]	0.6	0.8	0.6	1.4	2.5	2.2	2.3	0.9	1.3	1.1	11.7	0.7
##	[6853]	1.0	1.2	1.2	0.8	2.8	0.6	1.4	6.2	0.7	1.0	1.6	3.5
##	[6865]	0.9	0.2	5.8	0.8	3.8	1.0	1.1	1.0	6.6	1.8	1.1	1.2
##	[6877]	0.4	0.6	0.9	0.8	0.7	0.4	0.7	2.0	1.0	1.4	1.3	0.1
##	[6889]	45.3	1.5	0.3	0.9	0.6	1.1	1.6	4.7	1.2	1.0	1.8	1.8
##	[6901]	28.7	0.4	1.3	1.9	0.4	0.4	0.8	0.2	0.4	1.9	0.8	1.4
##	[6913]	3.8	1.0	2.4	4.2	0.7	1.4	1.1	1.7	3.6	3.4	1.5	0.7
##	[6925]	2.1	1.1	0.8	0.6	2.9	0.5	1.6	0.6	4.2	2.3	1.3	1.1
##	[6937]	9.3	1.1	1.0	1.0	1.9	1.5	0.7	2.5	92.2	1.8	0.6	1.1
##	[6949]	0.6	43.3	1.4	1.8	3.4	2.8	1.2	1.1	3.2	0.3	2.0	2.2
##	[6961]	1.0	3.3	1.3	1.1	1.0	0.3	1.0	0.7	1.6	3.7	1.3	0.4
##	[6973]	3.0	8.2	0.7	1.5	0.5	0.8	1.4	1.5	0.8	0.6	5.3	1.8
##	[6985]	1.9	1.4	2.3	1.2	3.7	2.0	1.1	2.8	1.9	5.0	2.0	0.9
##	[6997]	0.6	1.5	0.2	1.4	1.1	1.2	21.1	16.8	5.9	3.3	2.1	1.0
##	[7009]	0.6	1.6	2.0	2.6	0.8	1.5	1.5	1.6	0.4	5.6	0.9	1.0
##	[7021]	2.0	0.3	16.7	1.9	1.6	0.9	3.3	0.6	0.0	0.8	2.7	0.2
##	[7033]	0.5	0.8	0.1	3.9	1.6	1.8	0.9	3.2	3.4	1.2	0.9	1.2
##	[7045]	4.1	1.2	10.8	3.6	0.5	2.6	2.6	0.7	1.4	1.5	0.9	0.9
##	[7057]	1.9	1.4	0.6	1.5	0.0	1.2	1.8	0.4	0.1	1.0	1.4	8.6
##	[7069]	1.3	0.8	2.5	1.8	1.1	0.9	1.9	1.9	2.0	1.2	0.7	0.4
##	[7081]	0.9	2.3	0.5	1.1	1.1	0.1	1.4	0.9	2.0	1.0	1.3	0.8
##	[7093]	16.2	1.2	1.3	1.8	2.4	0.7	9.0	0.8	1.7	0.2	0.5	15.7
##	[7105]	1.4	1.6	3.2	1.5	4.1	1.1	1.5	1.1	0.8	1.8	0.9	4.3
##	[7117]	0.6	1.1	0.6	1.1	1.1	1.5	0.7	0.7	1.9	183.7	10.3	7.8
##	[7129]	1.7	0.2	0.8	1.6	0.5	2.0	1.1	1.4	2.2	0.9	1.3	1.0
##	[7141]	1.1	1.2	2.3	1.7	1.8	23.1	1.8	0.3	1.1	1.2	1.4	0.8
##	[7153]	0.5	0.9	1.5	1.1	2.9	0.6	0.7	1.7	1.4	0.9	0.6	1.1
##	[7165]	5.4	1.0	0.8	0.7	1.3	0.6	1.6	1.7	0.6	2.3	1.3	2.2
##	[7177]	2.7	2.9	1.5	0.6	0.9	0.8	2.0	5.2	2.3	0.8	6.1	2.0
##	[7189]	1.0	8.0	1.2	3.3	1.5	2.4	1.3	1.0	1.1	0.6	2.5	0.6
##	[7201]	1.9	3.7	0.3	1.3	1.3	0.6	1.1	0.5	1.7	0.8	3.8	2.7
##	[7213]	1.2	1.4	0.7	1.4	2.3	0.8	0.7	1.4	2.2	1.5	3.6	1.0
##	[7225]	0.0	0.0	0.8	6.5	1.3	1.7	2.4	0.3	0.8	0.1	0.7	0.8
##	[7237]	27.6	0.8	1.9	3.5	1.1	5.3	0.8	2.7	0.8	1.2	1.5	0.5
##	[7249]	0.2	1.0	0.3	0.7	1.2	0.7	0.3	1.2	1.9	1.1	9.4	0.2
##	[7261]	1.1	0.8	1.1	6.3	3.3	1.1	1.3	98.2	0.9	2.0	1.7	1.8
##	[7273]	0.3	0.0	2.9	4.9	0.8	1.6	2.2	1.5	1.2	0.9	1.5	2.4
##	[7285]	1.5	0.9	0.7	2.5	1.1	0.7	1.5	1.3	3.5	0.7	1.8	1.1
##	[7297]	1.1	3.5	0.4	0.7	3.6	0.2	6.2	3.1	1.7	0.8	0.9	1.2
##	[7309]	7.3	0.6	1.1	1.5	0.3	1.4	1.9	2.2	1.4	144.8	4.3	1.1
##	[7321]	1.1	1.4	1.5	8.3	0.7	0.3	3.1	1.2	2.2	6.5	2.6	0.4
##	[7333]	0.9	1.4	0.9	0.7	0.7	2.7	1.7	0.9	1.4	1.6	1.2	0.2
##	[7345]	2.8	1.2	0.8	0.2	0.6	0.2	1.4	0.2	1.5	2.0	0.9	1.0
##	[7357]	1.0	1.0	0.8	4.3	1.4	1.8	0.8	0.5	0.2	1.2	1.3	2.3
##	[7369]	1.7	3.9	1.4	1.3	1.6	1.2	1.0	0.8	0.5	1.1	6.7	1.3
##	[7381]	0.6	1.4	1.7	0.1	0.6	0.8	0.9	1.4	5.5	0.4	1.4	0.9

##	[7393]	1.2	0.9	6.7	0.6	0.2	1.5	1.1	0.9	0.0	2.0	2.1	1.9
##	[7405]	1.2	0.6	1.1	0.2	1.2	0.9	3.0	0.9	2.6	1.8	0.8	4.8
##	[7417]	2.1	0.8	0.7	1.2	0.6	4.9	1.3	34.1	0.2	0.6	0.7	0.5
##	[7429]	0.7	2.2	1.0	1.1	0.7	1.0	1.3	0.4	1.9	0.0	0.5	2.6
##	[7441]	1.4	2.3	0.3	1.7	0.6	0.7	0.2	0.9	0.5	1.2	1.3	1.1
##	[7453]	0.3	3.7	0.6	2.4	0.7	12.4	3.9	1.7	13.6	0.8	10.7	0.6
##	[7465]	0.0	1.3	2.5	3.1	0.9	1.4	0.5	0.9	0.8	0.5	4.3	1.7
##	[7477]	2.2	1.7	0.3	0.8	0.3	1.0	0.3	1.1	2.0	0.8	0.6	0.7
##	[7489]	2.9	1.0	1.3	0.7	2.0	0.7	0.9	0.9	2.2	0.4	0.7	0.3
##	[7501]	1.7	0.3	3.1	2.2	2.8	1.2	0.8	0.9	4.0	2.3	0.6	2.1
##	[7513]	0.2	0.9	0.7	0.8	0.3	0.5	1.4	0.5	1.2	1.2	13.4	0.1
##	[7525]	0.9	1.4	0.9	13.9	0.5	0.9	5.0	1.2	1.9	1.2	0.8	0.4
##	[7537]	1.7	0.7	0.7	0.9	1.6	1.4	1.7	0.7	4.9	1.9	1.1	0.5
##	[7549]	1.0	2.1	0.5	0.7	0.8	0.8	4.2	4.5	1.0	0.8	0.4	1.2
##	[7561]	1.2	1.7	0.7	1.1	0.9	1.7	4.9	1.3	6.3	1.1	2.1	0.4
##	[7573]	2.4	1.3	1.9	1.1	1.1	11.4	2.0	0.3	1.0	0.9	1.3	0.7
##	[7585]	0.6	0.9	2.3	1.8	0.6	0.5	3.7	0.6	1.4	3.1	1.2	1.0
##	[7597]	2.3	1.0	1.6	1.5	1.0	1.5	8.0	1.3	2.0	1.0	0.6	0.2
##	[7609]	0.6	0.6	1.5	0.9	1.4	1.2	0.2	0.9	0.1	0.9	0.7	0.5
##	[7621]	3.2	1.4	8.7	14.6	3.4	0.7	0.2	1.4	0.8	0.8	1.3	0.0
##	[7633]	1.2	1.0	2.4	1.3	1.5	3.4	0.2	2.7	0.3	1.6	16.0	1.3
##	[7645]	1.4	9.5	1.5	0.7	2.1	1.7	0.4	0.8	0.1	3.4	5.5	0.7
##	[7657]	1.5	1.2	1.2	0.5	0.9	3.9	1.0	0.4	3.4	0.8	1.4	67.7
##	[7669]	0.5	1.0	0.5	2.1	0.7	0.2	2.0	1.2	0.9	3.5	1.0	1.2
##	[7681]	0.8	2.5	1.6	3.0	9.9	0.8	0.9	44.6	1.2	6.1	1.6	0.2
##	[7693]	1.2	1.2	1.6	1.1	0.4	0.5	1.4	1.1	0.9	1.1	2.2	0.0
##	[7705]	0.1	0.7	1.4	0.0	0.7	0.3	1.2	1.8	2.0	2.0	0.5	2.6
##	[7717]	1.6	0.4	0.1	1.1	6.4	0.9	1.2	1.4	1.1	1.7	3.3	0.9
##	[7729]	6.1	1.4	0.2	10.0	9.7	1.2	1.2	0.2	1.3	4.4	0.5	0.3
##	[7741]	0.5	0.6	1.5	1.8	0.5	7.9	2.3	2.1	1.2	11.6	3.4	5.1
##	[7753]	2.2	0.3	0.4	3.6	2.0	0.5	1.4	1.1	0.7	4.7	3.5	1.4
##	[7765]	0.8	1.0	65.4	9.7	2.6	0.8	1.9	3.4	1.2	0.9	0.7	12.1
##	[7777]	1.7	0.5	2.5	0.0	0.8	0.7	0.9	1.8	0.3	8.4	1.7	0.5
##	[7789]	0.5	0.5	2.8	0.9	1.2	2.2	0.8	2.6	4.7	0.6	2.9	0.4
##	[7801]	1.7	1.2	1.4	3.5	1.1	1.2	7.4	5.9	3.6	0.0	0.9	0.6
##	[7813]	0.6	1.0	0.8	0.8	4.0	5.4	1.8	1.3	0.3	1.3	28.0	1.1
##	[7825]	1.4	0.5	1.4	0.9	16.5	0.5	1.6	0.6	1.1	0.7	0.6	1.6
##	[7837]	0.6	1.0	4.9	1.0	3.4	0.6	4.0	1.4	1.9	1.6	0.8	13.8
##	[7849]	0.8	1.9	1.4	1.7	2.6	3.5	10.5	0.7	1.6	0.8	13.7	0.1
##	[7861]	1.9	13.1	3.4	1.2	0.2	1.6	1.2	1.1	0.1	3.8	1.5	1.5
##	[7873]	0.9	1.8	1.4	1.6	0.5	1.6	1.9	1.4	3.6	0.9	1.9	0.6
##	[7885]	1.2	4.5	1.1	1.4	1.9	1.7	1.1	0.6	0.8	1.0	0.8	5.5
##	[7897]	5.2	0.9	2.0	0.9	0.8	1.7	0.7	0.8	6.8	1.3	0.6	0.9
##	[7909]	3.4	0.5	1.2	2.4	1.2	1.8	0.8	19.4	2.0	0.7	0.6	1.6
##	[7921]	0.5	7.3	1.9	0.6	0.7	1.4	4.3	2.1	1.0	1.0	4.3	1.6
##	[7933]	0.8	0.8	7.7	1.2	1.0	5.8	9.6	0.9	0.3	0.3	1.1	1.3
##	[7945]	0.9	1.2	1.3	3.6	1.7	0.9	0.5	1.7	0.9	5.2	0.9	0.6
##	[7957]	0.8	3.6	2.2	3.5	0.4	1.4	1.2	1.1	1.8	0.9	1.0	1.6
##	[7969]	1.1	1.8	1.5	2.5	1.6	0.0	1.0	0.8	1.3	3.7	0.5	0.3
##	[7981]	1.6	1.3	3.1	1.1	0.3	14.3	2.0	0.4	1.5	0.7	1.4	0.5
##	[7993]	1.8	0.9	1.5	0.8	5.0	17.8	0.9	0.7	1.8	0.8	1.3	1.0
##	[8005]	5.2	1.2	1.1	1.7	0.1	1.7	0.2	2.7	0.2	1.6	1.3	2.7
##	[8017]	0.9	1.1	2.6	1.7	0.8	2.2	1.1	6.1	1.6	1.9	4.5	0.9
##	[8029]	1.5	16.8	0.8	1.0	4.7	1.1	1.8	5.8	0.8	0.8	2.8	0.5

##	[8041]	0.6	0.7	0.0	1.5	1.7	19.8	1.9	1.4	4.1	1.2	0.9	2.0
##	[8053]	1.7	1.4	0.9	1.5	0.3	3.3	1.9	1.5	0.4	0.8	0.9	5.0
##	[8065]	0.6	0.9	3.9	1.6	0.8	1.5	0.7	0.8	4.2	1.1	2.2	0.9
##	[8077]	146.3	0.5	13.2	1.1	0.9	0.7	2.7	1.7	1.5	0.3	0.9	1.0
##	[8089]	0.7	1.4	1.1	1.1	5.0	0.9	0.8	0.8	2.3	0.4	0.7	1.5
##	[8101]	0.6	3.1	1.0	0.1	0.9	0.4	0.3	0.3	1.1	1.3	0.6	0.3
##	[8113]	0.9	4.0	1.2	1.8	0.9	0.9	0.6	0.0	2.5	1.2	1.2	0.7
##	[8125]	3.1	1.8	1.3	0.5	0.5	0.9	7.7	2.3	1.3	12.8	1.8	1.6
##	[8137]	1.0	0.9	1.2	0.6	1.2	1.2	13.6	15.6	4.4	4.0	1.6	1.4
##	[8149]	1.3	4.9	1.0	1.9	0.3	2.5	1.9	0.4	3.7	2.5	1.1	2.0
##	[8161]	0.4	2.4	1.4	1.0	7.6	10.7	2.2	0.5	2.1	2.5	1.1	2.2
##	[8173]	2.1	25.7	1.9	1.1	0.8	2.0	7.6	0.7	0.8	0.8	0.5	0.8
##	[8185]	0.7	0.5	3.1	5.6	0.6	1.5	0.6	1.2	7.0	0.3	1.3	1.6
##	[8197]	0.9	1.3	1.1	0.8	0.5	0.7	0.2	1.4	1.1	0.2	1.8	1.0
##	[8209]	0.9	3.2	1.2	0.9	2.0	1.1	4.6	0.8	3.7	1.1	1.8	2.0
##	[8221]	0.5	4.9	8.2	1.2	0.8	0.6	0.5	0.6	1.6	0.3	4.2	1.7
##	[8233]	2.7	1.1	38.8	0.1	1.6	0.9	1.1	2.7	1.1	1.2	0.3	0.4
##	[8245]	3.1	0.6	0.8	1.3	2.2	0.9	0.3	0.9	1.0	11.2	2.2	1.0
##	[8257]	0.5	3.9	1.5	1.3	0.2	1.1	1.9	1.0	1.3	1.0	2.0	1.0
##	[8269]	1.1	6.7	0.1	17.6	4.7	2.0	0.9	3.4	1.0	1.5	2.5	1.4
##	[8281]	1.6	0.9	0.9	0.9	0.6	0.4	0.9	3.7	1.5	1.4	2.6	1.5
##	[8293]	3.7	10.0	28.2	0.7	2.0	1.1	2.0	103.7	1.6	0.9	1.1	1.7
##	[8305]	1.0	1.0	1.0	2.1	1.5	1.5	1.1	2.5	0.2	0.9	0.8	1.2
##	[8317]	1.9	0.5	0.8	1.2	0.6	0.9	1.6	4.2	1.1	6.3	2.5	0.8
##	[8329]	2.5	1.0	3.2	0.6	0.2	0.7	0.2	1.3	7.0	0.1	0.2	1.8
##	[8341]	0.7	1.8	9.3	1.7	0.3	0.9	1.2	1.2	0.2	1.3	1.0	0.5
##	[8353]	0.3	0.7	1.7	1.8	0.9	2.3	0.6	1.3	2.1	3.3	1.4	2.7
##	[8365]	1.2	0.6	3.2	3.0	2.8	1.0	2.8	0.9	2.4	1.1	1.1	0.7
##	[8377]	1.0	0.5	0.1	1.2	78.6	1.0	1.3	1.4	3.6	0.5	13.4	0.5
##	[8389]	2.8	0.0	0.9	4.4	1.5	0.3	1.0	1.3	0.5	2.1	0.9	1.6
##	[8401]	0.9	1.7	0.6	0.8	0.3	1.1	0.5	0.5	1.6	1.8	1.8	1.6
##	[8413]	2.5	1.2	45.2	1.3	0.8	0.8	0.8	1.3	0.0	0.4	1.5	0.0
##	[8425]	0.5	4.7	0.2	0.8	4.9	3.0	1.1	0.1	2.9	0.8	1.8	1.9
##	[8437]	0.4	1.9	0.5	2.8	0.8	1.4	3.4	9.4	1.0	1.2	4.6	2.9
##	[8449]	1.7	0.8	5.6	5.2	1.2	0.7	0.7	16.8	0.5	1.3	2.4	1.0
##	[8461]	3.0	1.3	2.2	1.3	2.4	6.4	0.6	2.1	0.8	0.2	0.2	3.9
##	[8473]	1.2	0.4	28.7	1.2	0.7	9.9	0.8	1.3	11.6	1.1	0.9	0.9
##	[8485]	0.5	0.4	1.5	1.6	0.6	1.3	1.0	3.0	30.4	1.0	0.4	6.9
##	[8497]	0.8	0.0	1.3	3.7	3.1	0.9	1.6	1.3	1.4	2.5	0.4	1.3
##	[8509]	1.7	2.4	1.4	3.3	1.2	0.9	0.7	1.3	1.9	5.2	1.1	1.7
##	[8521]	1.3	0.4	3.6	5.2	1.0	2.2	1.4	0.0	24.2	5.1	4.1	1.2
##	[8533]	6.6	1.4	0.3	1.0	2.5	3.4	2.6	1.8	0.8	1.7	1.3	4.0
##	[8545]	0.4	0.4	2.9	2.8	2.2	4.1	1.2	2.5	1.6	1.0	1.0	0.4
##	[8557]	0.7	1.1	4.1	2.9	0.9	1.0	1.5	0.4	1.2	1.9	1.7	2.9
##	[8569]	2.5	1.0	2.7	0.4	0.6	4.7	1.4	0.0	2.1	1.3	0.6	0.9
##	[8581]	2.9	0.4	0.6	0.7	1.2	0.5	1.9	1.0	0.0	5.3	1.1	6.9
##	[8593]	1.0	2.3	1.3	1.4	0.4	1.9	3.2	0.6	1.2	1.2	3.5	0.3
##	[8605]	0.8	0.3	3.9	1.3	2.4	2.8	7.8	15.6	0.8	1.5	2.9	0.6
##	[8617]	1.7	0.4	1.1	1.6	4.6	0.8	0.8	0.8	2.5	1.0	0.3	0.7
##	[8629]	1.3	0.0	1.8	0.9	1.4	4.5	0.8	1.0	1.1	1.0	5.8	0.5
##	[8641]	0.9	1.3	0.7	1.6	1.5	0.6	9.7	1.8	1.7	2.0	1.2	3.1
##	[8653]	0.9	2.7	1.8	1.3	1.1	1.3	1.1	1.1	1.1	0.9	0.3	1.1
##	[8665]	1.8	0.7	1.3	0.3	1.7	0.6	24.0	2.4	1.5	1.3	0.4	0.5
##	[8677]	0.7	7.1	0.9	2.8	3.4	2.0	1.0	1.4	0.6	0.3	2.3	2.0



##	[8689]	1.5	1.2	1.3	0.8	0.2	0.7	1.7	1.6	0.3	1.5	3.1	2.5
##	[8701]	1.1	1.2	0.7	0.9	5.1	0.5	0.6	3.4	1.6	1.2	7.5	2.3
##	[8713]	0.7	2.1	3.1	6.7	0.8	0.9	0.5	0.6	0.4	0.3	1.6	0.2
##	[8725]	6.2	0.2	0.2	1.3	1.5	1.5	0.6	0.3	2.8	1.4	3.0	0.6
##	[8737]	7.2	1.1	0.6	2.8	6.2	0.1	1.7	1.0	1.0	0.5	3.9	13.7
##	[8749]	1.4	1.3	6.4	6.2	2.5	1.1	2.0	1.3	2.3	0.9	1.6	2.1
##	[8761]	0.6	0.9	0.3	0.0	2.0	2.1	4.4	44.0	1.3	1.5	1.1	1.3
##	[8773]	1.5	8.9	0.7	1.2	0.9	1.3	1.4	0.6	6.4	3.0	2.4	1.4
##	[8785]	1.1	3.0	0.7	0.7	1.9	0.5	1.0	5.8	5.0	1.5	2.6	1.8
##	[8797]	0.9	1.1	0.4	1.5	0.5	0.4	0.6	0.0	5.3	0.4	1.3	5.9
##	[8809]	2.5	1.8	1.7	0.3	4.8	1.0	0.7	1.3	1.0	1.3	13.2	1.1
##	[8821]	0.8	1.0	0.8	0.7	1.4	1.0	0.5	1.1	1.8	2.1	1.1	0.5
##	[8833]	0.6	0.7	0.3	0.8	1.3	0.8	1.6	0.4	0.3	2.0	0.9	0.7
##	[8845]	1.6	1.7	1.0	1.0	2.2	168.9	1.6	1.4	0.3	1.0	15.5	0.5
##	[8857]	1.8	1.9	1.6	2.6	4.8	1.3	0.3	13.0	15.8	0.5	1.1	0.1
##	[8869]	1.4	1.3	1.2	0.0	1.6	1.7	1.0	0.2	4.6	1.6	0.2	2.4
##	[8881]	0.8	1.1	0.5	2.1	5.8	0.7	1.2	1.2	1.0	1.3	2.5	1.5
##	[8893]	1.2	1.4	0.3	0.8	1.2	1.5	1.2	1.9	0.7	1.2	2.9	1.0
##	[8905]	1.0	0.9	0.4	0.4	0.8	5.4	0.6	3.9	4.2	0.0	0.6	1.9
##	[8917]	1.8	30.0	1.3	0.5	3.3	1.1	0.8	1.4	16.6	1.9	2.6	1.3
##	[8929]	1.7	0.7	2.1	1.2	2.7	0.1	2.1	0.6	0.7	1.7	18.3	0.6
##	[8941]	0.5	1.3	3.5	1.2	1.5	0.4	3.8	1.8	0.3	1.2	0.6	0.8
##	[8953]	0.0	2.3	0.9	0.8	1.3	1.0	2.9	0.1	2.5	2.7	1.9	1.1
##	[8965]	1.5	0.9	0.9	1.7	1.1	1.1	1.0	1.8	1.2	0.6	1.4	2.2
##	[8977]	1.2	1.4	1.3	0.5	0.8	1.3	1.0	1.1	1.3	2.2	1.2	2.2
##	[8989]	0.7	1.2	2.7	1.8	0.9	1.8	0.7	0.5	0.7	1.8	1.2	2.7
##	[9001]	1.8	1.9	0.9	0.4	0.0	1.3	3.9	14.0	4.4	0.9	3.2	1.4
##	[9013]	0.1	0.5	2.6	1.5	1.0	5.2	0.9	1.9	0.4	1.0	0.9	1.6
##	[9025]	0.9	0.8	0.2	1.7	1.3	0.8	1.9	0.4	1.1	4.7	1.9	0.6
##	[9037]	5.3	0.8	1.3	1.0	1.0	1.5	7.2	1.0	1.9	0.7	14.9	0.0
##	[9049]	1.1	0.6	0.8	3.0	1.3	2.2	1.1	1.5	25.1	0.1	1.4	1.2
##	[9061]	0.4	0.3	1.0	0.4	0.6	0.3	2.4	0.8	20.4	3.8	0.4	1.4
##	[9073]	0.9	0.4	2.5	1.6	48.5	0.2	0.6	2.2	1.0	1.0	7.4	1.1
##	[9085]	1.6	0.5	2.0	0.3	21.4	0.4	2.2	5.4	2.2	0.2	1.5	1.2
##	[9097]	2.1	1.4	1.5	0.7	1.4	1.3	0.6	1.0	1.1	1.1	0.9	1.9
##	[9109]	1.0	2.2	0.5	1.5	0.8	0.5	2.1	0.7	0.4	0.3	2.3	1.6
##	[9121]	0.9	1.5	2.3	1.0	0.8	0.7	1.1	8.5	0.1	0.3	0.6	0.0
##	[9133]	3.4	0.7	1.3	0.3	1.6	1.4	1.0	0.8	0.8	0.9	1.5	0.5
##	[9145]	0.2	1.6	1.8	1.1	0.2	0.8	1.0	1.5	0.9	1.8	1.6	3.1
##	[9157]	0.7	0.9	2.0	0.9	1.6	5.3	0.8	1.2	1.5	1.6	1.6	2.3
##	[9169]	0.5	12.9	2.1	1.3	1.2	0.0	1.4	2.6	1.1	1.0	0.7	3.5
##	[9181]	3.2	1.6	1.2	1.0	2.4	1.5	1.0	1.6	1.1	1.8	1.9	1.2
##	[9193]	0.3	1.1	2.2	2.5	0.5	1.5	1.5	0.9	2.3	3.4	0.9	0.9
##	[9205]	0.2	0.0	1.8	0.9	1.2	1.0	2.5	0.9	5.0	1.9	1.9	10.4
##	[9217]	1.0	0.2	1.5	0.1	2.3	0.5	0.2	0.9	0.3	0.9	1.0	0.9
##	[9229]	0.0	3.5	1.1	1.3	0.5	0.6	0.7	3.1	0.9	0.7	1.5	1.0
##	[9241]	1.3	2.1	1.2	0.4	2.3	0.2	1.3	1.4	28.6	5.9	2.2	2.5
##	[9253]	0.8	3.7	2.4	1.8	1.8	1.2	9.2	1.6	0.2	2.4	0.9	2.8
##	[9265]	0.0	5.2	1.8	0.4	0.6	1.7	2.3	1.0	82.1	1.1	0.9	1.7
##	[9277]	1.4	1.0	5.1	1.0	4.2	2.4	0.6	0.4	3.2	0.2	0.5	2.9
##	[9289]	5.6	1.7	4.1	1.3	1.0	0.7	4.3	4.4	1.4	1.5	4.6	0.8
##	[9301]	1.1	3.8	2.3	0.4	1.4	0.6	2.4	3.7	5.8	4.4	1.1	1.6
##	[9313]	0.8	0.5	0.8	2.6	0.6	0.5	1.5	0.9	0.8	1.0	2.5	1.3
##	[9325]	1.1	0.3	1.4	3.0	1.2	0.9	1.5	0.1	4.3	0.3	0.9	0.9

##	[9337]	1.6	1.6	0.8	0.6	0.7	0.7	0.2	1.2	1.2	0.7	0.1	1.0
##	[9349]	2.5	1.7	0.9	2.2	0.8	0.9	1.3	1.6	0.5	1.2	1.2	0.5
##	[9361]	0.8	1.2	1.5	1.8	1.0	2.2	0.8	1.0	3.8	0.7	1.6	1.5
##	[9373]	16.3	1.5	0.9	0.9	2.9	0.7	2.8	3.1	0.7	1.7	1.2	1.1
##	[9385]	0.0	0.8	2.3	1.2	1.2	0.7	3.0	45.3	0.8	0.0	1.7	1.3
##	[9397]	0.6	1.9	1.2	2.7	2.2	1.5	1.4	1.1	0.9	1.1	1.2	0.3
##	[9409]	1.8	2.6	1.7	0.1	0.1	0.5	1.5	1.0	1.7	0.0	0.6	16.8
##	[9421]	0.6	7.4	6.5	1.1	3.9	0.7	1.3	1.0	3.6	3.0	0.7	2.2
##	[9433]	1.5	1.0	1.2	0.1	0.7	1.2	1.3	0.9	0.2	1.3	5.3	0.0
##	[9445]	1.2	2.7	4.5	0.8	1.3	2.3	0.6	1.3	0.1	0.1	0.4	3.8
##	[9457]	2.1	2.6	2.6	4.0	2.5	1.5	0.5	1.3	1.8	1.8	0.8	1.1
##	[9469]	0.5	1.2	0.0	0.7	1.4	1.3	0.3	1.0	4.6	1.1	1.2	0.4
##	[9481]	0.9	0.8	0.4	34.7	1.8	4.2	5.4	1.9	4.3	3.4	2.7	6.1
##	[9493]	0.9	0.6	1.1	1.9	0.9	1.3	1.0	0.7	1.6	0.4	1.1	1.6
##	[9505]	1.3	0.8	1.5	1.1	1.5	1.2	1.0	3.7	18.1	0.9	3.9	0.7
##	[9517]	1.2	1.7	0.3	1.0	1.3	1.5	1.3	1.1	6.9	1.7	1.2	2.0
##	[9529]	1.6	0.9	0.1	4.3	1.4	1.9	30.2	1.2	2.2	0.9	1.1	1.8
##	[9541]	27.6	1.3	1.3	0.4	0.4	5.2	1.1	1.2	0.0	0.3	1.1	0.7
##	[9553]	1.8	0.3	1.8	0.3	0.8	1.3	0.2	1.2	0.7	0.9	1.4	1.8
##	[9565]	0.4	1.9	3.2	39.3	3.3	3.7	2.7	1.0	1.1	1.1	0.5	1.7
##	[9577]	1.3	0.6	0.0	1.5	0.0	1.7	1.8	0.9	0.7	0.9	0.9	0.5
##	[9589]	2.2	0.5	1.7	1.2	1.8	1.7	11.2	6.9	1.3	1.4	0.2	0.4
##	[9601]	0.5	3.5	1.8	6.4	2.4	1.1	1.7	0.7	1.2	0.9	0.9	7.8
##	[9613]	1.0	1.4	1.6	0.8	1.0	0.1	3.3	2.3	0.4	0.1	0.8	0.2
##	[9625]	1.7	0.7	1.6	2.0	0.6	0.7	1.2	1.1	1.8	2.3	1.1	0.9
##	[9637]	1.8	0.7	2.3	1.2	1.5	0.6	0.9	0.7	0.8	2.1	1.2	1.1
##	[9649]	1.4	0.9	0.3	0.7	1.2	0.2	0.6	2.1	3.9	3.9	1.8	1.5
##	[9661]	1.1	0.7	0.5	0.5	5.6	1.2	0.8	1.2	2.3	2.4	1.2	0.1
##	[9673]	1.0	0.9	0.9	0.6	1.6	3.1	1.2	1.0	0.6	0.9	1.2	1.6
##	[9685]	0.7	0.1	1.5	0.4	1.4	0.3	1.8	2.7	1.0	1.9	2.4	0.9
##	[9697]	0.5	0.8	0.7	3.7	3.8	1.4	0.4	2.3	0.9	1.1	1.5	1.1
##	[9709]	0.3	12.1	0.2	0.9	0.9	0.8	0.9	1.6	0.7	1.2	0.5	1.6
##	[9721]	0.5	2.0	0.1	1.8	1.0	0.6	1.1	0.1	0.8	0.9	0.3	0.8
##	[9733]	1.2	2.5	1.1	1.5	0.2	1.0	1.3	0.7	0.6	11.6	1.1	0.1
##	[9745]	1.1	0.8	11.2	0.7	0.0	0.4	5.0	0.7	1.4	3.7	0.7	0.7
##	[9757]	1.5	0.8	1.1	0.4	1.4	1.3	2.2	3.1	0.2	2.7	0.5	3.8
##	[9769]	3.2	1.9	0.1	6.1	1.5	3.0	1.9	2.9	0.3	0.8	1.3	0.6
##	[9781]	0.3	0.4	0.3	32.2	3.3	3.0	1.1	0.0	1.7	1.0	4.4	3.1
##	[9793]	1.3	4.9	0.7	0.9	1.6	1.2	1.0	1.4	5.1	0.0	0.4	5.3
##	[9805]	0.5	1.4	1.0	1.9	0.8	4.9	2.3	1.1	0.6	0.3	0.5	0.6
##	[9817]	1.3	1.0	1.4	1.5	8.9	2.0	0.8	2.0	4.1	0.0	1.7	0.8
##	[9829]	6.3	0.7	0.8	1.4	1.8	1.6	1.5	0.7	1.9	0.9	1.2	1.5
##	[9841]	1.3	4.7	1.5	0.0	1.1	1.1	1.4	1.3	0.2	1.5	3.0	1.5
##	[9853]	0.0	1.4	2.4	1.1	1.5	1.2	1.8	0.4	1.7	2.4	1.3	0.3
##	[9865]	0.4	1.1	0.8	7.6	0.2	0.0	0.9	0.8	3.0	0.7	5.5	0.9
##	[9877]	1.0	1.7	36.4	2.0	1.0	1.5	0.6	0.7	1.1	2.4	1.6	0.5
##	[9889]	0.1	1.3	1.0	2.8	1.5	0.6	1.2	1.3	2.0	1.2	1.1	0.6
##	[9901]	59.8	1.0	1.4	1.6	0.3	0.0	1.1	1.1	1.2	0.4	0.8	0.4
##	[9913]	0.3	2.3	3.0	0.3	3.1	2.1	9.9	1.6	6.9	5.1	1.1	1.4
##	[9925]	1.5	0.5	0.7	1.1	0.4	1.7	0.7	1.1	1.3	1.1	10.2	1.0
##	[9937]	1.0	1.1	1.1	0.5	1.5	0.6	0.8	2.0	1.6	1.2	1.4	1.2
##	[9949]	1.3	1.0	0.8	1.0	3.1	1.0	0.8	12.1	1.2	0.9	0.7	1.9
##	[9961]	2.6	1.2	1.7	0.2	4.4	0.8	2.0	3.0	9.6	0.0	0.8	0.7
##	[9973]	4.6	14.1	2.6	0.3	0.5	1.0	3.5	0.5	1.6	1.5	0.4	5.6

```
## [9985]  9.9  0.5  0.7  0.3 14.4  0.8  2.0  2.6  2.5  0.8 13.6  5.8
## [9997]  1.8  1.0  1.1  1.6
```

```
tb_sample <- tibble(sample = sample_q) %>%
  count(sample > 10) %>%
  mutate(prob = n/10000) #what is the ratio of datapoints over 10?
```

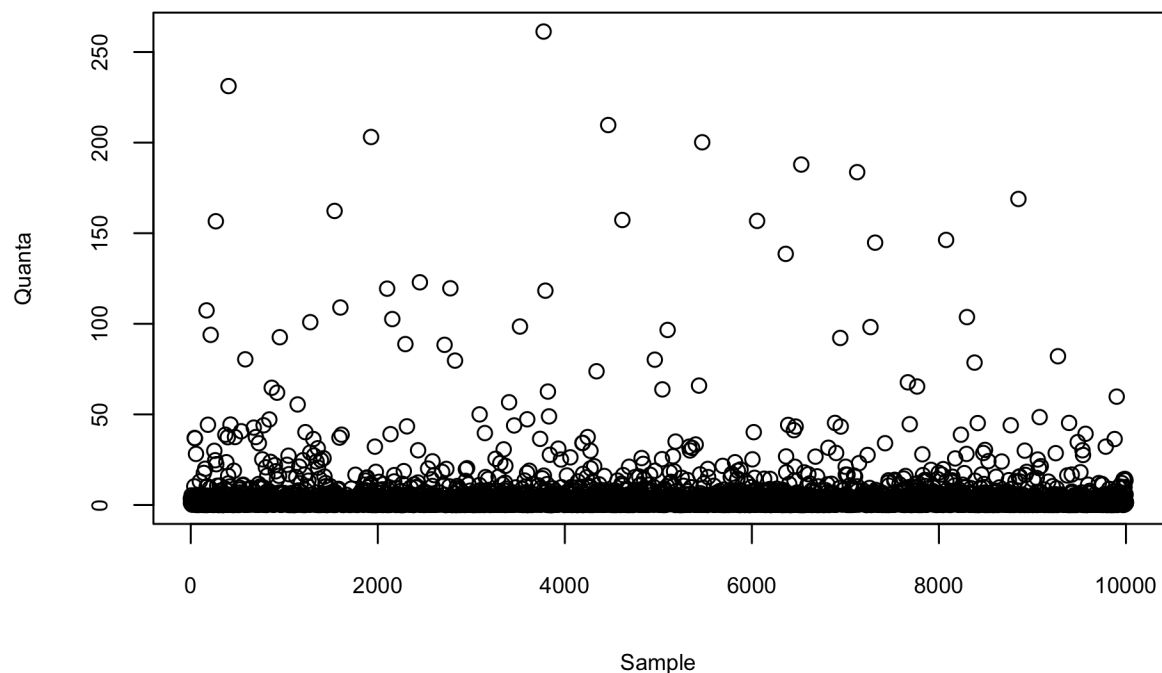
```
q_under_10 <- tb_sample[1,3, drop = TRUE]
q_under_10 # approx. 96% of data points are below 10
```

```
## [1] 0.9645
```

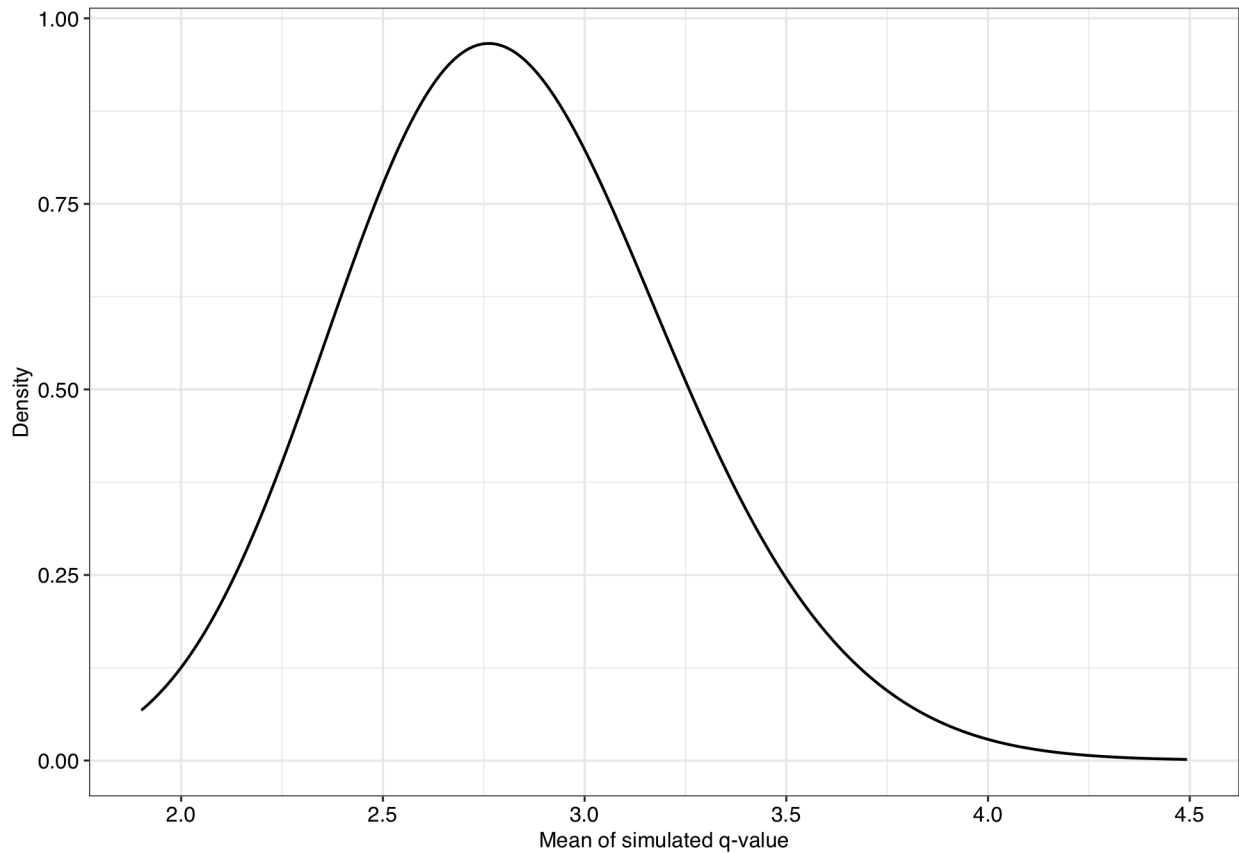
```
mean(sample_q) #mean of the sample should be between 2 and 3
```

```
## [1] 2.71343
```

```
plot(sample_q, ylab="Quanta", xlab = "Sample", cex.axis=.7, cex.lab=.7)
```



```
thousand_sample <- replicate(10000, mean(sample(rq_distr$quanta, 1000, replace = TRUE, prob = rq_distr$
#for calculating the distribution of the mean over lots of simulations
ggplot() + geom_density(mapping = aes(thousand_sample), alpha = .2, kernel = "gaussian", adjust = 5) +
  xlab("Mean of simulated q-value") +
  ylab("Density") +
  theme_bw2())
```

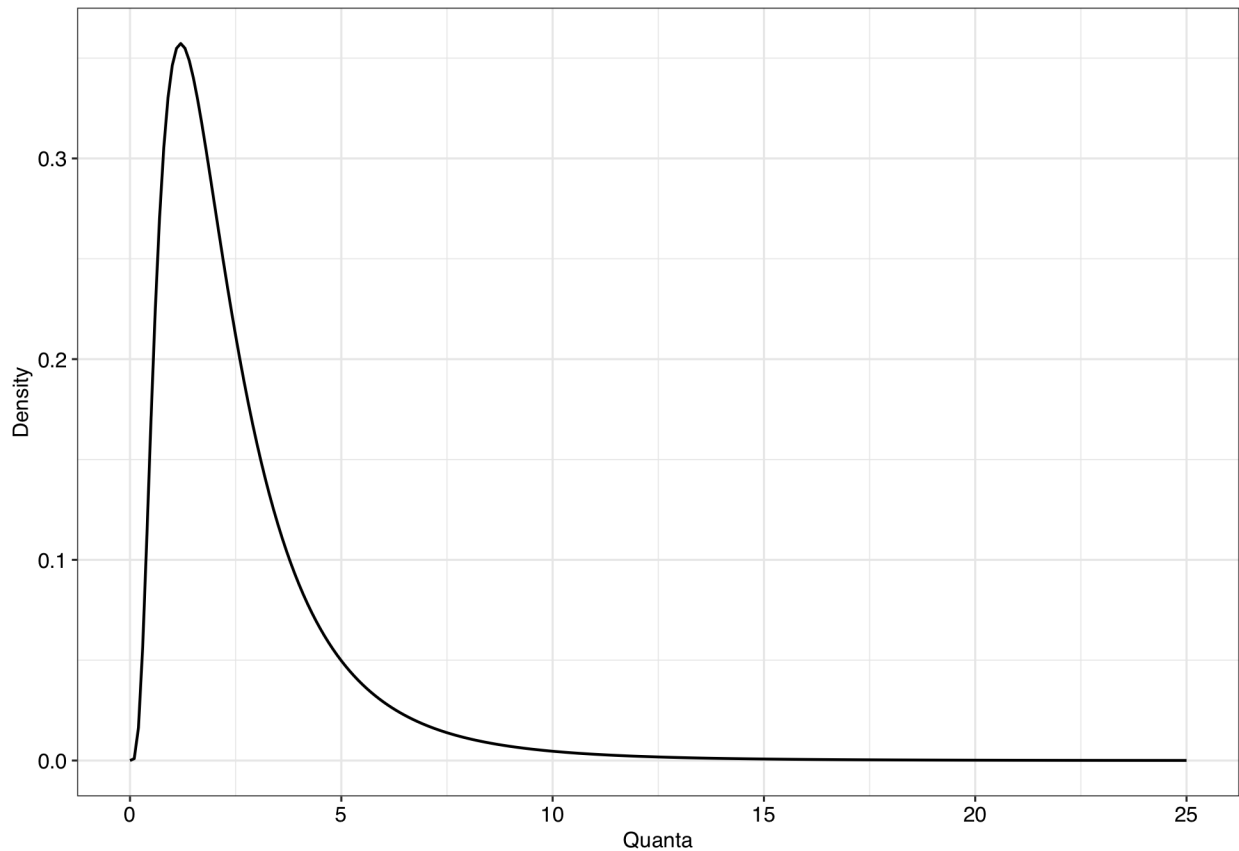


```
#Mean is in the desired area
```

```
## Buonanno et al. provide an estimation for the quanta (like in MCID)
#"light activity, speaking"
cov_q <- function(x) {
  dtrunc(x, spec = "lnorm", a = 0, meanlog = 0.698, sdlog = 0.720)
}

cov_q_distr <- data.frame(quanta = seq(0, 25, .1)) %>%
  mutate(prob = cov_q(quanta)) %>%
  mutate(type = "SARS")

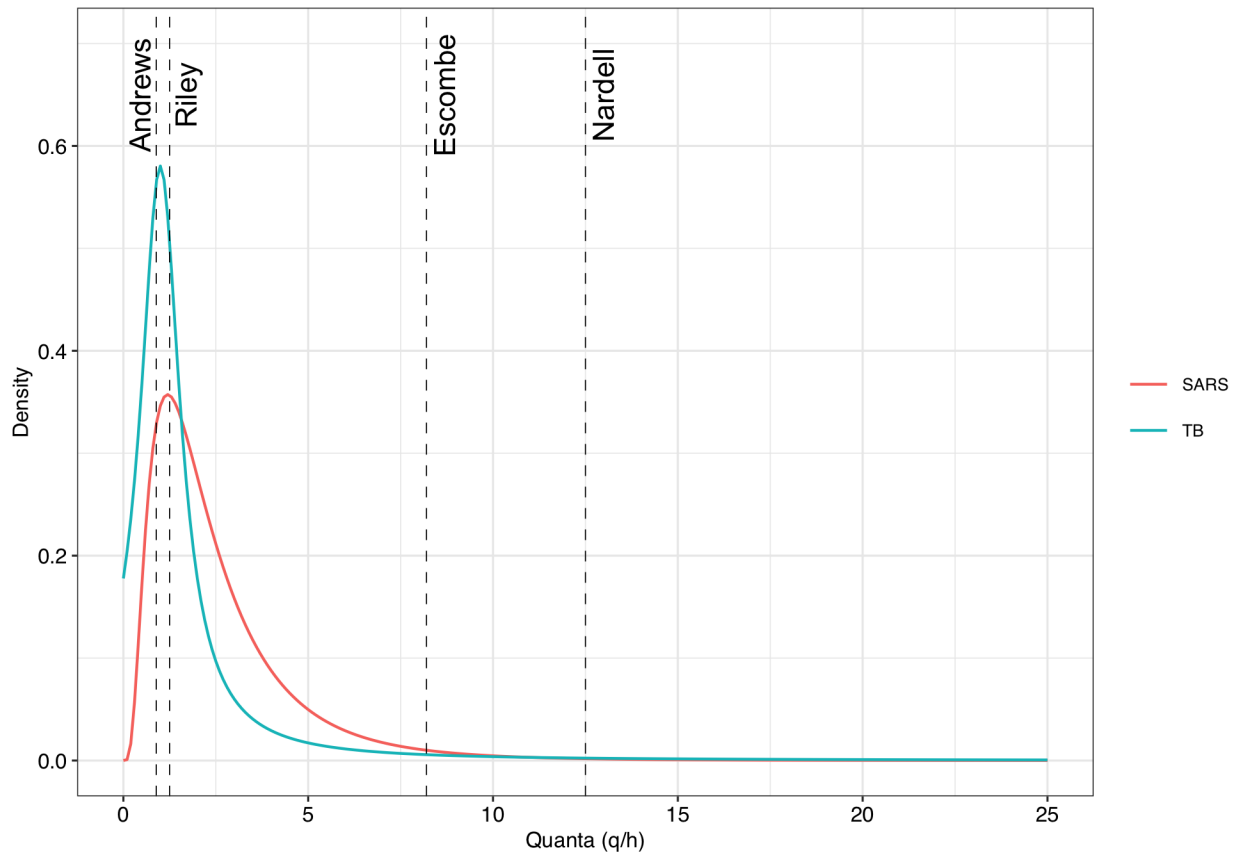
cov_q_distr %>%
  ggplot(aes(x = quanta, y = prob)) +
  geom_line() +
  theme_bw2() +
  ylab("Density") +
  xlab("Quanta")
```



```
sample_q_cov <- sample(cov_q_distr$quanta, 10000, replace = TRUE, prob = cov_q_distr$prob)
```

```
q_data <- rbind(rq_distr,cov_q_distr)
```

```
q_data %>%
  ggplot(aes(x=quanta, y = prob, color = type)) +
  geom_line() +
  labs(x = "Quanta (q/h)", y = "Density") +
  theme_bw2() +
  scale_y_continuous(limits = c(0, 0.700)) +
  scale_x_continuous(limits = c(0, 25)) +
  scale_color_discrete(name=NULL) +
  geom_vline(xintercept = 1.25, linetype = "dashed", size = 0.2) +
  geom_vline(xintercept = 12.5, linetype = "dashed", size = 0.2) +
  geom_vline(xintercept = 8.2, linetype = "dashed", size = 0.2) +
  geom_vline(xintercept = 0.89, linetype = "dashed", size = 0.2) +
  annotate("text", x=13, y=0.65, label="Nardell", angle=90) +
  annotate("text", x=8.7, y=0.65, label="Escombe", angle=90) +
  annotate("text", x=1.7, y=0.65, label="Riley", angle=90) +
  annotate("text", x=0.45, y= 0.65, label="Andrews", angle=90)
```



## Rest of the parameters

```
##
n_ch <- 20
n_sa <- 30 #Powerpoint
n_tz <- 50 #Powerpoint

#I tuberculosis
prev_ch <- 4.1/100000
#https://www.bag.admin.ch/bag/de/home/zahlen-und-statistiken/zahlen-zu-infektionskrankheiten.exturl.htm

prev_sa <- 513/100000
# tendenziell zu hoch da 15-25
#https://worldhealthorg.shinyapps.io/tb_profiles/?_inputs_entity_type=%22country%22&lan=%22EN%22&iso2
# Ansteckungen in Altersgruppe 5-24 durch Population in dieser Altersgruppe (nicht 15-24 genommen, da s
prev_tz <- 208/100000
#https://data.worldbank.org/indicator/SH.TBS.INCD?locations=TZ

I_ch <- prev_ch*n_ch #prevalence per class (per year)
I_sa <- prev_sa*n_sa
I_tz <- prev_tz*n_tz

#I Covid
I_ch_cov <- 0.05*n_ch
40000/8700000
```

## [1] 0.004597701

```

month <- 7*5*4
year <- 7*5*4*10

#Covid

#Ratio between excess mortality rate and reported COVID-19 mortality rate
#CH: 1.29
#SA: 3.31
#TZ: 178.81

# Anzahl Excess mortality ist über den ganzen Zeitraum 19/20 berichtet, wenn ich einfach den Durchschnitt
#Nehme nun die ratio, wende Sie an die WHO Daten an und erhalte korrekte Anzahl Tote pro Zeitpunkt,
#mithilfe eines Estimators für IFR kann ich dann die Anzahl cases t-14 berechnen.

#IFR: https://www.eurosurveillance.org/docserver/fulltext/eurosurveillance/27/7/eurosurv-27-7-2.pdf?exp

#Excess: https://www.thelancet.com/action/showPdf?pii=S0140-6736%2821%2902796-3
#(((mean(635,635,630)*1.29)/0.005)/8600000)*n_ch
#(((mean(3649,4027,3723)*3.31)/0.005)/59400000)*n_sa
#(((mean(29,28,27)*178.81)/0.005)/63400000)*n_tz

I_ch_high <- (250000/8654622)*n_ch #https://covid19.who.int/region/euro/country/ch
I_sa_high <- (135000/59308690)*n_sa
I_tz_high <- (20000/45741007)*n_tz #data from uganda
#https://www.worldometers.info/world-population/population-by-country/ for the population

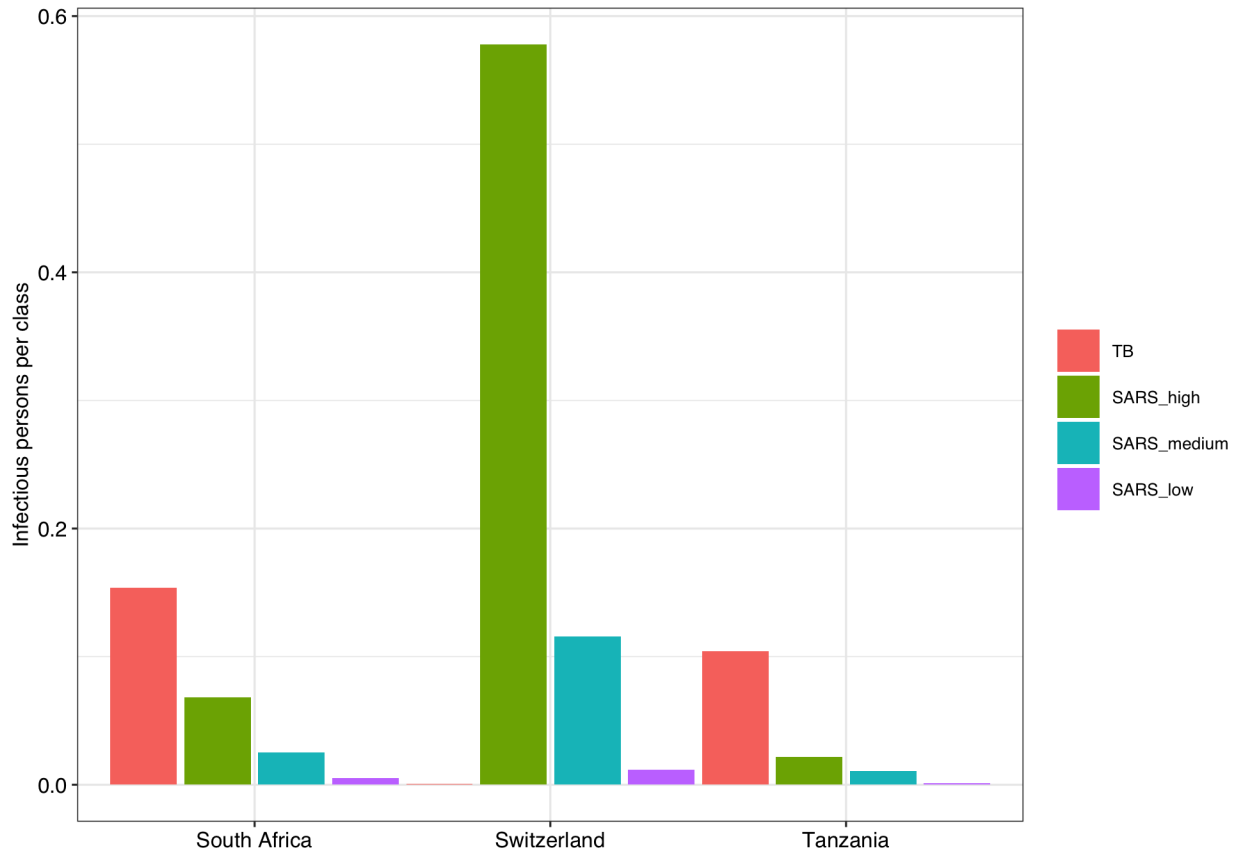
I_ch_medium <- (50000/8654622)*n_ch
I_sa_medium <- (50000/59308690)*n_sa
I_tz_medium <- (10000/45741007)*n_tz

I_ch_low <- (5000/8654622)*n_ch
I_sa_low <- (10000/59308690)*n_sa
I_tz_low <- (1000/45741007)*n_tz

I_data <- tibble(country= c(rep(c("Switzerland", "South Africa", "Tanzania"), 4)), I = c(I_ch,I_sa,I_tz,
I_data$type <- factor(I_data$type,
                      levels = c("TB", "SARS_high", "SARS_medium", "SARS_low"))

I_data %>%
  group_by (country, type)%>%
  ggplot +
  geom_col(aes(x=country, y= I, fill=type), position = position_dodge(1))+
  theme_bw2()+
  theme(axis.title.x = element_blank())+
  labs(y = "Infectious persons per class") +
  scale_fill_discrete(name=NULL)

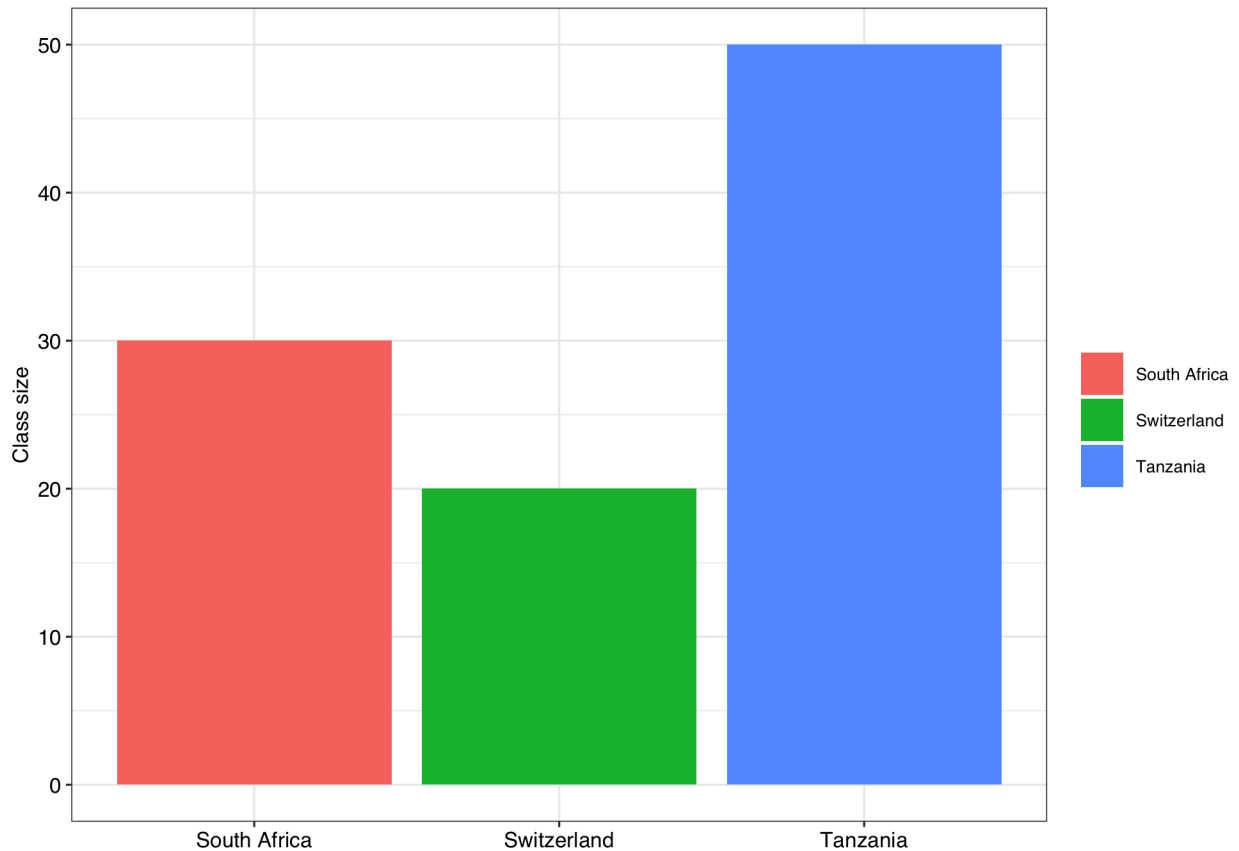
```



```
n_data <- tibble(country = c("Switzerland", "South Africa", "Tanzania"), n = c(n_ch, n_sa, n_tz))

n_data %>%
  ggplot +
  geom_col(aes(x=country, y= n, fill = country), position = position_dodge(1))+
  theme_bw2()+
  theme(axis.title.x = element_blank()) +
  labs(y = "Class size") +
  scale_fill_discrete(name=NULL)
```





<https://coronavirus.jhu.edu/data/mortality>

*#preparing datasets for plotting*

```
df_ch1 <- tibble(school = c(rep("school 1", 10000)), f = sample_f_ch1, q_tb = sample_q, q_cov = sample_q_cov)
mutate(df_ch1, P_year = 1 - exp(-(f*I_ch*q_tb*year)/n_ch)) %>%
mutate(df_ch1, P_year_one = 1 - exp(-(f*I_ch*q_tb*year)/n_ch)) %>%
mutate(df_ch1, P_month_one_cov = 1 - exp(-(f*I_ch*q_cov*month)/n_ch)) %>%
mutate(df_ch1, P_month_est_high = 1 - exp(-(f*I_ch_high*q_cov*month)/n_ch)) %>%
mutate(df_ch1, P_month_est_medium = 1 - exp(-(f*I_ch_medium*q_cov*month)/n_ch)) %>%
mutate(df_ch1, P_month_est_low = 1 - exp(-(f*I_ch_low*q_cov*month)/n_ch))

df_ch2 <- tibble(school = c(rep("school 2", 10000)), f = sample_f_ch2, q_tb = sample_q, q_cov = sample_q_cov)
mutate(df_ch2, P_year = 1 - exp(-(f*I_ch*q_tb*year)/n_ch)) %>%
mutate(df_ch2, P_year_one = 1 - exp(-(f*I_ch*q_tb*year)/n_ch)) %>%
mutate(df_ch2, P_month_one_cov = 1 - exp(-(f*I_ch*q_cov*month)/n_ch)) %>%
mutate(df_ch2, P_month_est_high = 1 - exp(-(f*I_ch_high*q_cov*month)/n_ch)) %>%
mutate(df_ch2, P_month_est_medium = 1 - exp(-(f*I_ch_medium*q_cov*month)/n_ch)) %>%
mutate(df_ch2, P_month_est_low = 1 - exp(-(f*I_ch_low*q_cov*month)/n_ch))

df_tz <- tibble(school = c(rep("tanzania", 10000)), f = sample_f_tz, q_tb = sample_q, q_cov = sample_q_cov)
mutate(df_tz, P_year = 1 - exp(-(f*I_tz*q_tb*year)/n_tz)) %>%
mutate(df_tz, P_year_one = 1 - exp(-(f*I_tz*q_tb*year)/n_tz)) %>%
mutate(df_tz, P_month_one_cov = 1 - exp(-(f*I_tz*q_cov*month)/n_tz)) %>%
mutate(df_tz, P_month_est_high = 1 - exp(-(f*I_tz_high*q_cov*month)/n_tz)) %>%
mutate(df_tz, P_month_est_medium = 1 - exp(-(f*I_tz_medium*q_cov*month)/n_tz)) %>%
mutate(df_tz, P_month_est_low = 1 - exp(-(f*I_tz_low*q_cov*month)/n_tz))
```

```

df_sa <- tibble(school = c(rep("south africa", 10000)), f = sample_f_sa, q_tb = sample_q, q_cov = sample_q_cov)
mutate(P_year = 1 - exp(-(f*I_sa*q_tb*year)/n_sa)) %>%
mutate(P_year_one = 1 - exp(-(f*1*q_tb*year)/n_sa)) %>%
mutate(P_month_one_cov = 1 - exp(-(f*1*q_cov*month)/n_sa)) %>%
mutate(P_month_est_high = 1 - exp(-(f*I_sa_high*q_cov*month)/n_sa)) %>%
mutate(P_month_est_medium = 1 - exp(-(f*I_sa_medium*q_cov*month)/n_sa)) %>%
mutate(P_month_est_low = 1 - exp(-(f*I_sa_low*q_cov*month)/n_sa)) %>%
mutate(five_quantil = unname(quantile(P_year$f, probs = seq(0, 1, 1/20)))[2]) %>%
mutate(ninefive_quantil = unname(quantile(P_year$f, probs = seq(0, 1, 1/20)))[20])

df_complet <- bind_rows(df_ch1, df_ch2, df_sa, df_tz)

mean_tb_ch1 <- describe(df_ch1$P_year$f)
mean_tb_ch2 <- describe(df_ch2$P_year$f)
mean_tb_tz <- describe(df_tz$P_year$f)
mean_tb_sa <- describe(df_sa$P_year$f)

mean(df_tz$P_month_est_low$f)

```

```
## [1] 0.00005919654
```

```
median(df_tz$P_year$f)
```

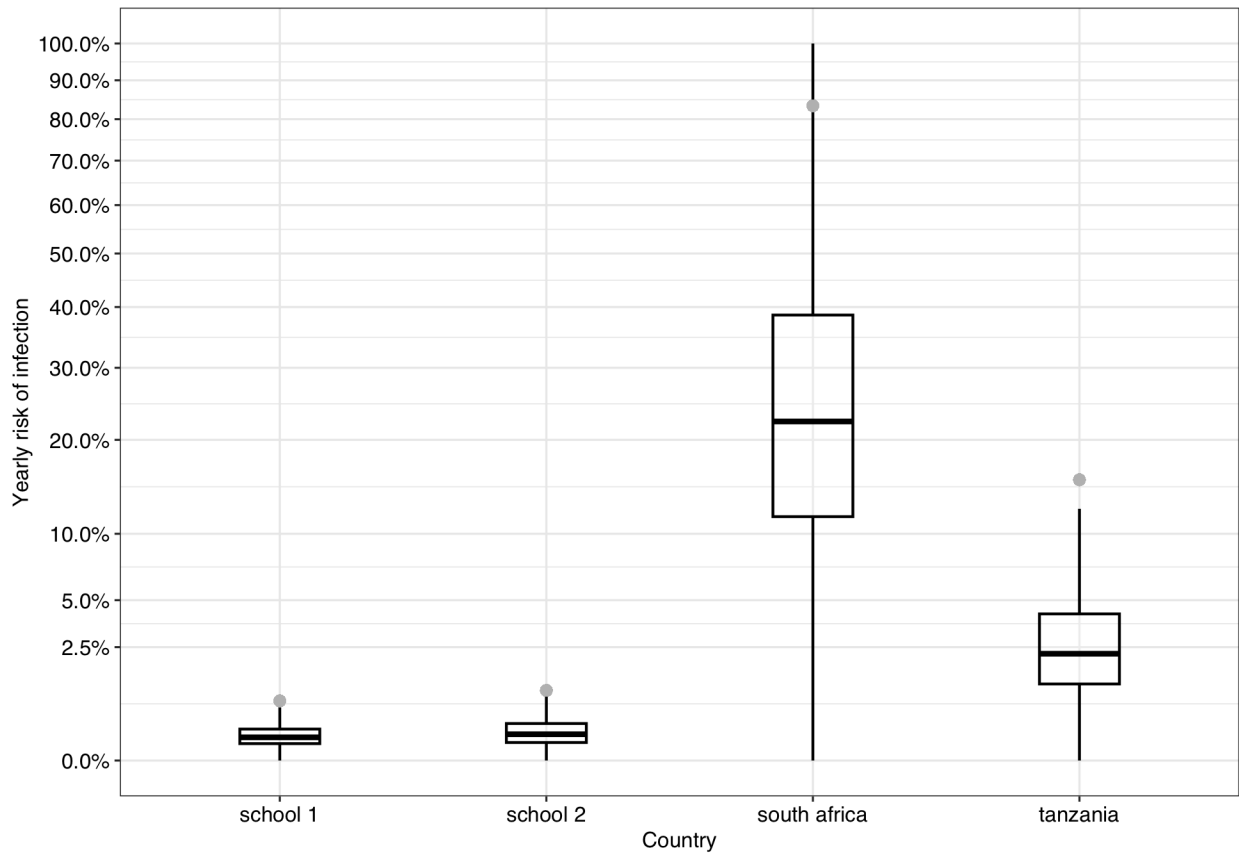
```
## [1] 0.02218057
```

## Plots of the transmission risk

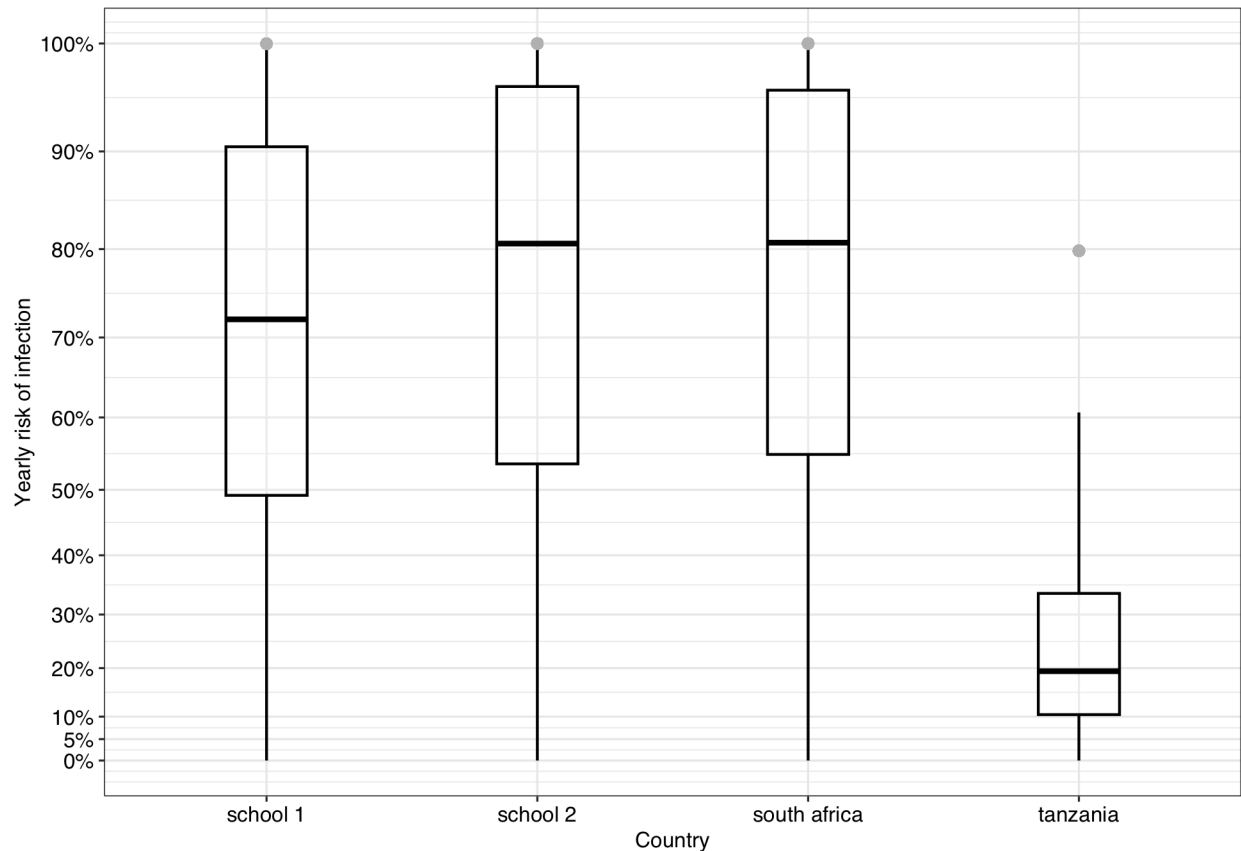
```

df_complet %>%
  ggplot(aes(x = school, y=P_year$f))+
  scale_y_continuous(labels = scales::percent_format(scale = 100), breaks = c(0,0.025,0.05,0.1,0.2,0.3,0.4,0.5)) +
  xlab("Country") +
  ylab("Yearly risk of infection") +
  theme_bw2() +
  geom_boxplot(width=0.3, color="black", alpha=0.2, outlier.shape = NA) +
  geom_point(aes(x=1,y=unname(quantile(df_ch1$P_year$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=2,y=unname(quantile(df_ch2$P_year$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=3,y=unname(quantile(df_sa$P_year$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=4,y=unname(quantile(df_tz$P_year$f, probs = 0.95))),colour="grey")

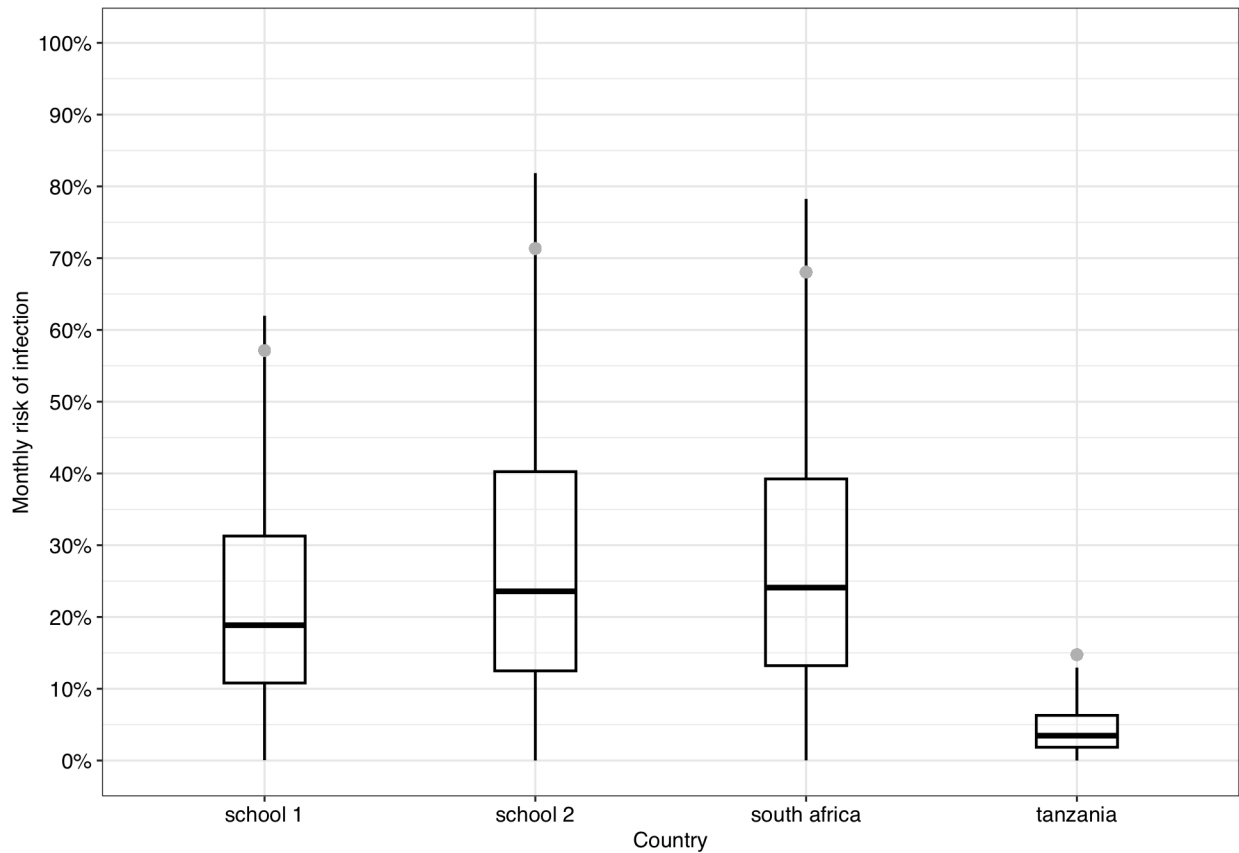
```



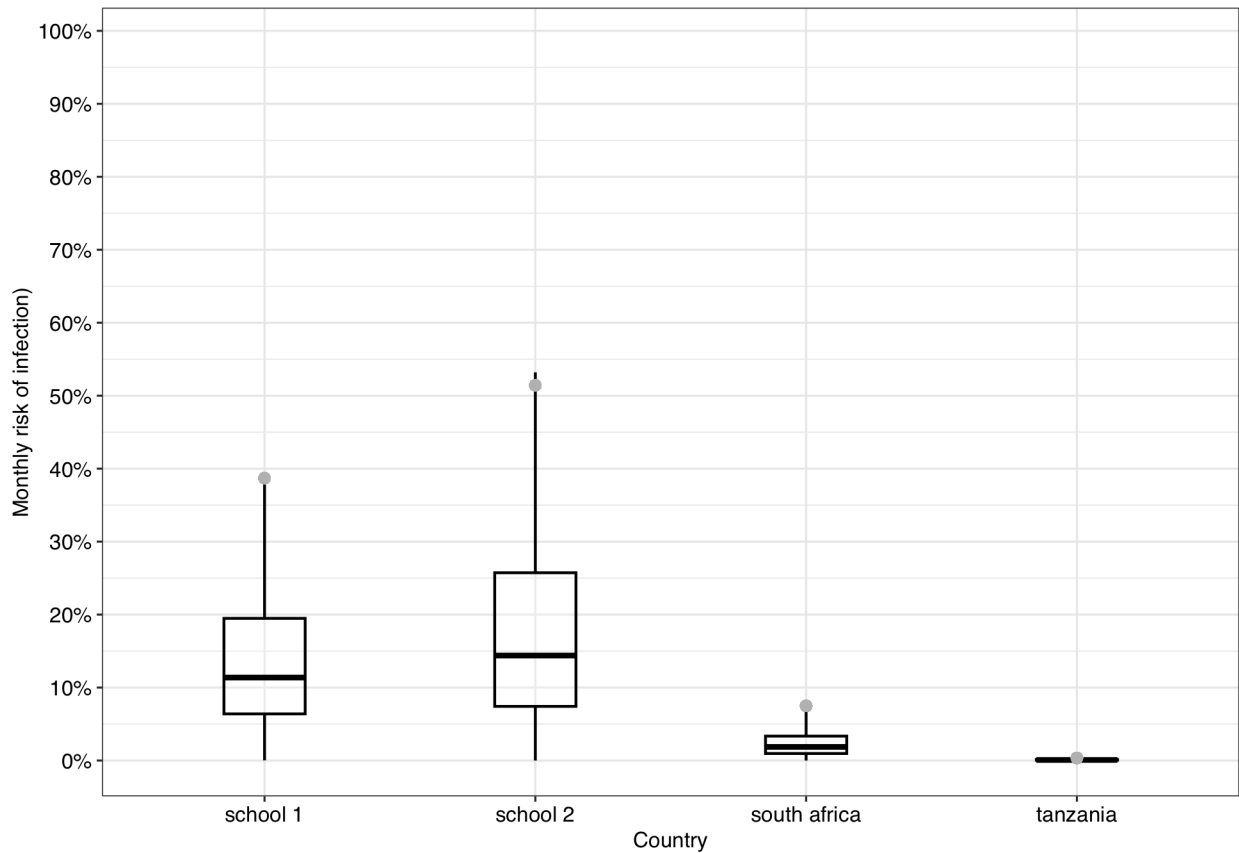
```
df_complet %>%
  ggplot(aes(x = school, y=P_year_one$f))+
  scale_y_continuous(labels = scales::percent_format(scale = 100), breaks = c(0,0.05,0.1,0.2,0.3,0.4,0.5)) +
  xlab("Country") +
  ylab("Yearly risk of infection") +
  theme_bw2() +
  geom_boxplot(width=0.3, color="black", alpha=0.2, outlier.shape = NA) +
  geom_point(aes(x=1,y=unname(quantile(df_ch1$P_year_one$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=2,y=unname(quantile(df_ch2$P_year_one$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=3,y=unname(quantile(df_sa$P_year_one$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=4,y=unname(quantile(df_tz$P_year_one$f, probs = 0.95))),colour="grey")
```



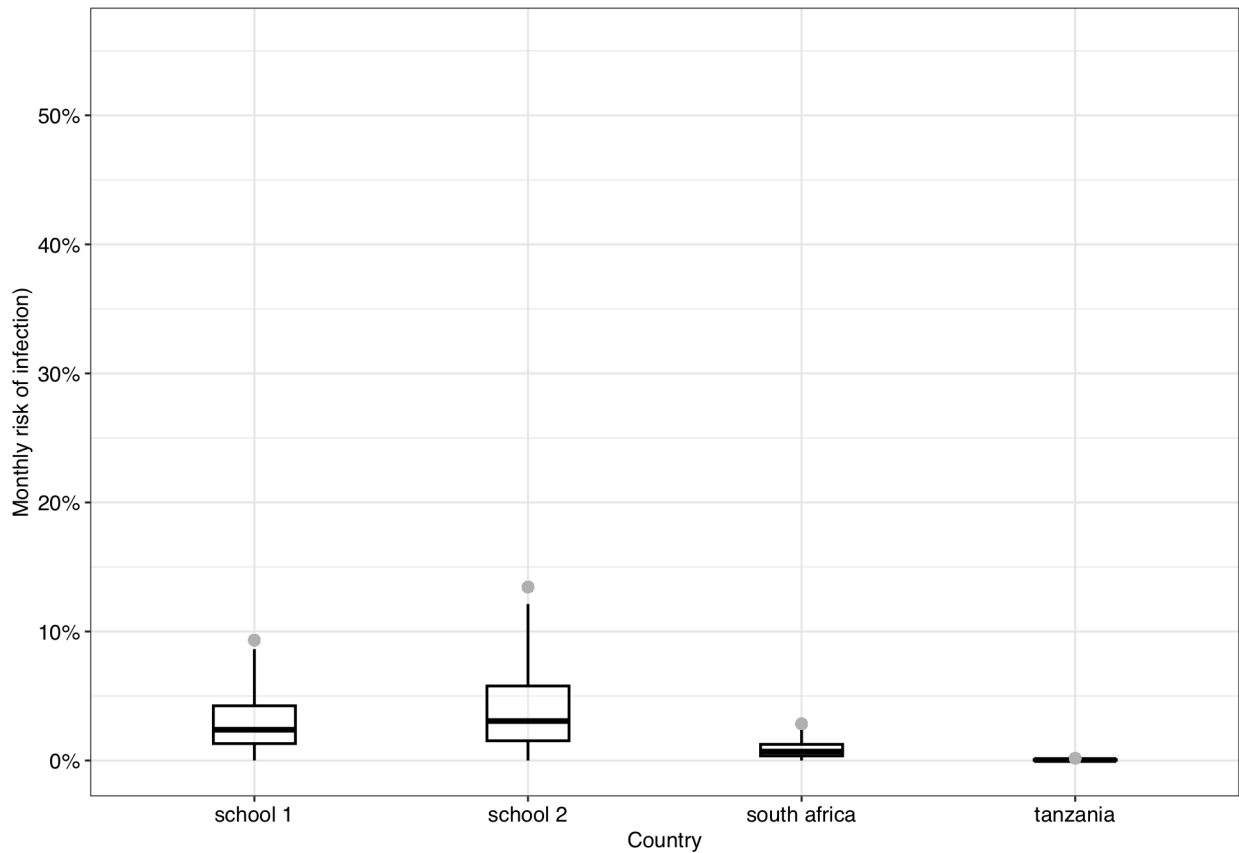
```
df_complet %>%
  ggplot(aes(x = school, y=P_month_one_cov$f))+
  scale_y_continuous(labels = scales::percent_format(scale = 100), breaks = c(0,0.1,0.2,0.3,0.4,0.5,0.6)) +
  xlab("Country") +
  ylab("Monthly risk of infection") +
  theme_bw2() +
  geom_boxplot(width=0.3, color="black", alpha=0.2, outlier.shape = NA) +
  geom_point(aes(x=1,y=unname(quantile(df_ch1$P_month_one_cov$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=2,y=unname(quantile(df_ch2$P_month_one_cov$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=3,y=unname(quantile(df_sa$P_month_one_cov$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=4,y=unname(quantile(df_tz$P_month_one_cov$f, probs = 0.95))),colour="grey")
```



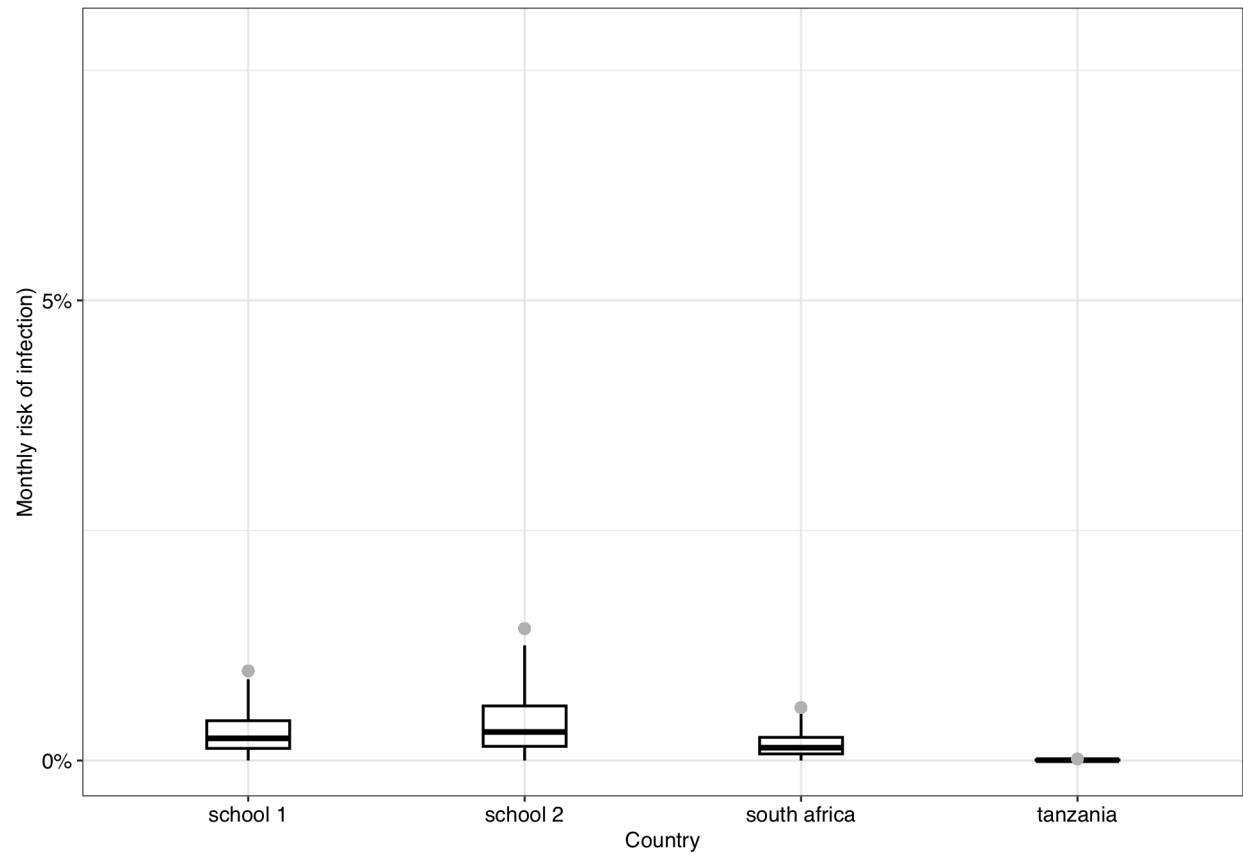
```
df_complet %>%
  ggplot(aes(x = school, y=P_month_est_high$f))+
  scale_y_continuous(labels = scales::percent_format(scale = 100), breaks = c(0,0.1,0.2,0.3,0.4,0.5,0.6)) +
  xlab("Country") +
  ylab("Monthly risk of infection") +
  theme_bw2() +
  geom_boxplot(width=0.3, color="black", alpha=0.2, outlier.shape = NA) +
  geom_point(aes(x=1,y=unname(quantile(df_ch1$P_month_est_high$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=2,y=unname(quantile(df_ch2$P_month_est_high$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=3,y=unname(quantile(df_sa$P_month_est_high$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=4,y=unname(quantile(df_tz$P_month_est_high$f, probs = 0.95))),colour="grey")
```



```
df_complet %>%
  ggplot(aes(x = school, y=P_month_est_medium$f))+
  scale_y_continuous(labels = scales::percent_format(scale = 100), breaks = c(0,0.1,0.2,0.3,0.4,0.5,0.6)) +
  xlab("Country") +
  ylab("Monthly risk of infection") +
  theme_bw2() +
  geom_boxplot(width=0.3, color="black", alpha=0.2, outlier.shape = NA) +
  geom_point(aes(x=1,y=unname(quantile(df_ch1$P_month_est_medium$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=2,y=unname(quantile(df_ch2$P_month_est_medium$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=3,y=unname(quantile(df_sa$P_month_est_medium$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=4,y=unname(quantile(df_tz$P_month_est_medium$f, probs = 0.95))),colour="grey")
```



```
df_complet %>%
  ggplot(aes(x = school, y=P_month_est_low$f))+
  scale_y_continuous(labels = scales::percent_format(scale = 100), breaks = c(0,0.05, 0.1,0.2,0.3,0.4,0.5)) +
  xlab("Country") +
  ylab("Monthly risk of infection") +
  theme_bw2() +
  geom_boxplot(width=0.3, color="black", alpha=0.2, outlier.shape = NA) +
  geom_point(aes(x=1,y=unname(quantile(df_ch1$P_month_est_low$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=2,y=unname(quantile(df_ch2$P_month_est_low$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=3,y=unname(quantile(df_sa$P_month_est_low$f, probs = 0.95))),colour="grey") +
  geom_point(aes(x=4,y=unname(quantile(df_tz$P_month_est_low$f, probs = 0.95))),colour="grey")
```



Now I will compare the risks of infection, assuming that the prevalence is the same for every country and also assuming that the class size is the same. The prevalence per country is not used. This is to highlight the influence of air quality.