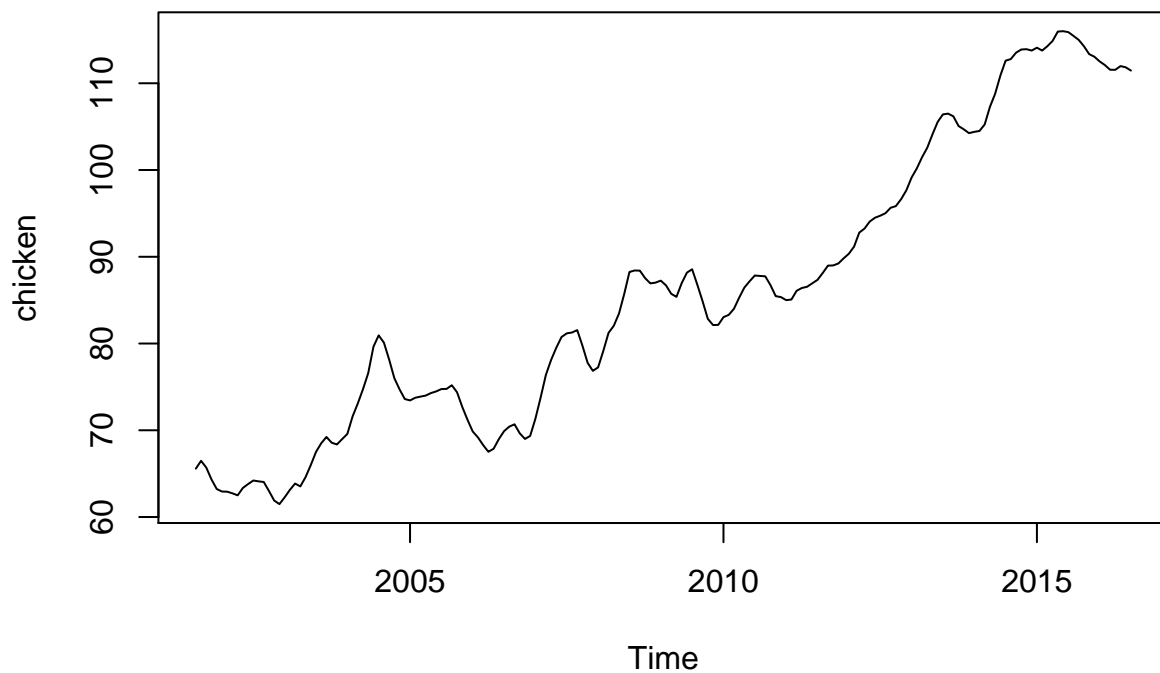# 732A62 Lab 3

Emil K Svensson & Rasmus Holm

2017-10-03

Assignment 1
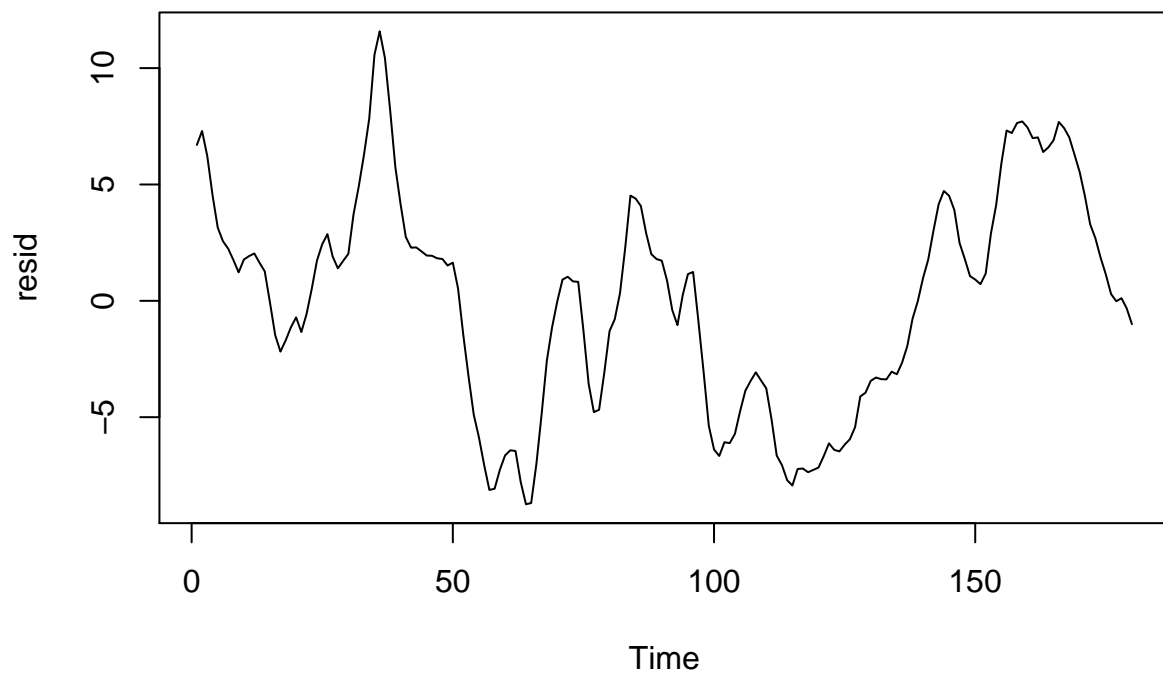
1)

```
library(astsa)

plot(chicken)
```


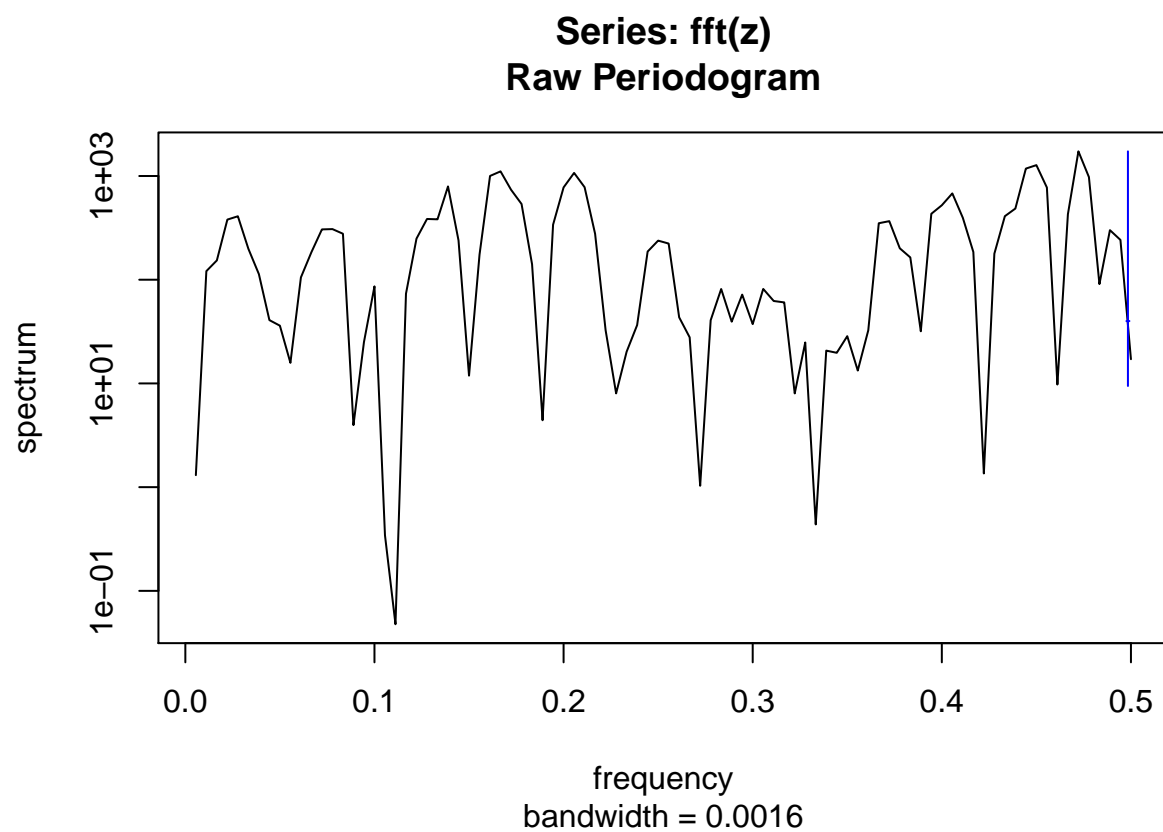It looks like a linear, potentially quadratic, trend.

2)

```
lm_data <- data.frame(chicken=chicken, time=1:length(chicken))
lm_fit <- lm(chicken ~ time, lm_data)
z <- resid(lm_fit)
plot(z, type="l", ylab="resid", xlab="Time")
```

The residuals do not look stationary.

3)

```
spec.pgram(fft(z))
```

Series: fft(z)
Raw Periodogram

frequency
bandwidth = 0.0016

4)

5)

6)

7)

Assignment 2

1)

2)

3)

4)

5)

6)