Analisis Regresi: Perbankan Syariah

David Syam Budi

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```r
# Unduh data sebagai teks mentah dari GitHub (raw link)
url <- "https://raw.githubusercontent.com/davidsyambudi/Latihan-Kuantitatif/6301b4aba6f6d62e0dea96ae6e0
raw <- read_lines(url)

# Gabungkan kembali baris-baris menjadi satu teks utuh
csv_text <- paste(raw, collapse = "\n")

# Baca data dengan pemisah titik koma dan desimal koma
data <- read_delim(
  file = csv_text,
  delim = ";",
  locale = locale(decimal_mark = ","),
  col_types = cols(
    Periode = col_character(),
    ROA = col_double(),
    NPL = col_double(),
    SWBI = col_double(),
    IPI = col_double(),
    LDR = col_double()
  )
)

# Bersihkan data dari NA jika ada
data <- na.omit(data)

# Tinjau struktur data
glimpse(data)
```

```
## Rows: 36
## Columns: 6
## $ Periode <chr> "2003.1", "2003.2", "2003.3", "2003.4", "2003.5", "2003.6", "2~
## $ ROA     <dbl> 0.32, 0.39, 0.43, 0.56, 0.61, 0.65, 0.74, 0.81, 0.83, 0.66, 0.~
## $ NPL     <dbl> 4.06, 4.00, 3.96, 3.91, 3.98, 3.93, 3.96, 3.96, 3.96, 3.67, 3.~
## $ SWBI    <dbl> 7.52, 6.49, 10.32, 9.51, 5.50, 7.98, 9.11, 7.11, 9.31, 8.75, 8~
## $ IPI     <dbl> 107.27, 105.82, 114.52, 107.80, 110.66, 116.36, 118.59, 119.59~
## $ LDR     <dbl> 102.20, 100.00, 99.11, 99.50, 100.50, 100.82, 96.04, 92.91, 90~
```

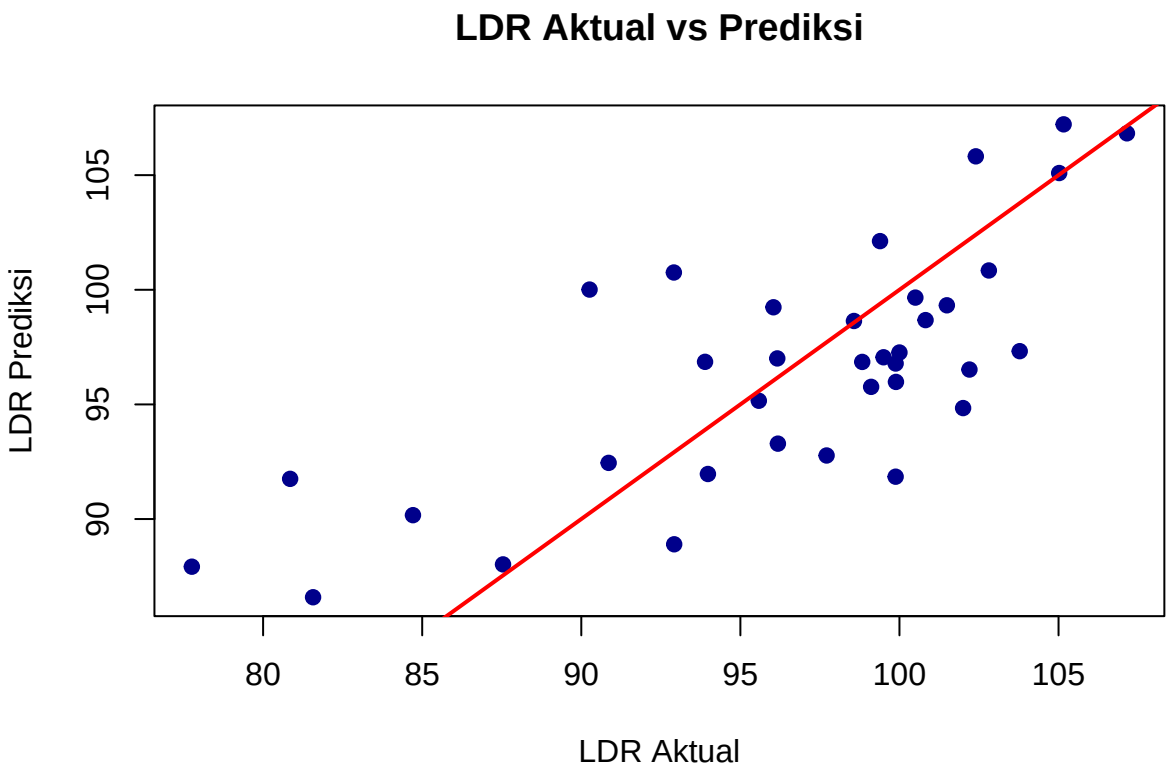
```r
# Model regresi
model <- lm(LDR ~ ROA + NPL + SWBI + IPI, data = data)

# Tampilkan hasil regresi
summary(model)
```

```
##
## Call:
## lm(formula = LDR ~ ROA + NPL + SWBI + IPI, data = data)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -10.9035  -2.7911   0.6308   2.9422   8.0330
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept) 72.090727  12.002845   6.006 1.21e-06 ***
## ROA          9.557832   3.430293   2.786 0.009017 **
## NPL          6.084018   1.604390   3.792 0.000649 ***
## SWBI        -0.424538   0.481127  -0.882 0.384361
## IPI         -0.001278   0.114841  -0.011 0.991192
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 5.048 on 31 degrees of freedom
## Multiple R-squared:  0.5465, Adjusted R-squared:  0.488
## F-statistic: 9.339 on 4 and 31 DF,  p-value: 4.502e-05
```

```r
# Tambahkan hasil prediksi
data <- data %>% mutate(Prediksi = predict(model))

# Plot
plot(data$LDR, data$Prediksi,
     main = "LDR Aktual vs Prediksi",
     xlab = "LDR Aktual",
     ylab = "LDR Prediksi",
     col = "darkblue", pch = 19)
abline(a = 0, b = 1, col = "red", lwd = 2)
```


LDR Aktual vs Prediksi
LDR Prediksi
LDR Aktual
80
85
90
95
100
105
90
95
100
105