スクリプト：

```
data_6 = read.csv("9_2_life_xt.csv", header = TRUE, sep = ",");
data_6;
reg9_1 = plm(life ~ income + shock, data = data_6, index =
c("id","t"), model = "pooling")
reg9_2 = plm(life ~ income + shock, data = data_6, index =
c("id","t"), model = "fd")
summary(reg9_1,vcovHC(reg9_1, method = "arellano"))
summary(reg9_2,vcovHC(reg9_2, method = "arellano"))
```

結果：

```
Pooling Model

Note: Coefficient variance-covariance matrix supplied:
vcovHC(reg9_1, method = "arellano")

Call:
plm(formula = life ~ income + shock, data = data_6, model =
"pooling",
   index = c("id", "t"))

Balanced Panel: n = 3020, T = 2, N = 6040

Residuals:
   Min.  1st Qu.   Median  3rd Qu.    Max.
-2.87891 -0.61989  0.33721  0.44082  1.49910

Coefficients:
             Estimate  Std. Error  t-value
(Intercept)  2.5551e+00  2.2362e-02 114.2649
income      3.2377e-04  5.2885e-05   6.1221
shock      -5.4234e-02  2.5262e-02  -2.1468
           Pr(>|t|)
(Intercept) < 2.2e-16 ***
income     9.815e-10 ***
shock       0.03185 *
---
Signif. codes:
0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Total Sum of Squares:   5478.3
Residual Sum of Squares: 5437.2
```

```
R-Squared:     0.0075006
Adj. R-Squared: 0.0071718
F-statistic: 20.6167 on 2 and 3019 DF, p-value: 1.2791e-09

Oneway (individual) effect First-Difference Model

Note:    Coefficient    variance-covariance    matrix    supplied:
vcovHC(reg9_2, method = "arellano")

Call:
plm(formula = life ~ income + shock, data = data_6, model = "fd",
    index = c("id", "t"))

Balanced Panel: n = 3020, T = 2, N = 6040
Observations used in estimation: 3020

Residuals:
    Min.  1st Qu.   Median  3rd Qu.    Max.
-4.20381 -1.15783 -0.15783  0.84217  3.88815

Coefficients:
            Estimate Std. Error t-value
(Intercept) 0.1578343  0.0243695  6.4767
income      0.0002299  0.0001616  1.4227
            Pr(>|t|)
(Intercept) 1.091e-10 ***
income        0.1549
---
Signif. codes:
0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Total Sum of Squares:    5186.5
Residual Sum of Squares: 5183.1
R-Squared:     0.00067026
Adj. R-Squared: 0.00033913
F-statistic: 2.024 on 1 and 3019 DF, p-value: 0.15493
```