

EE325

Participation credit # 4 ☺

Name: _____ **Student ID** _____

Scaling factor and Unit of measurement

Gross Private Domestic Investment (GPDI) and GDP, United States, 1990-2005

$$GPDI_t = \hat{\beta}_1 + \hat{\beta}_2 GDP_t + \hat{u}_t$$

Both GPDI and GDP in billions of dollars:

$$\begin{aligned} GPDI_t &= -926.090 + 0.2535 GDP_t \\ se &= (116.358) \quad (0.0129) \\ r^2 &= 0.9648 \end{aligned}$$

1. Interpret the intercept and slope coefficients.
2. Interpret the coefficient of determination.
3. Test the hypothesis whether the slope coefficients are different from zero at 0.05 level of significance.
4. If we would like to estimate such relationship in millions of dollars for GPDI and billions of dollars for GDP, what will happen to all estimators ($\hat{\beta}_1^*$, $\hat{\beta}_2^*$, $se(\hat{\beta}_1^*)$, and $se(\hat{\beta}_2^*)$) ? Show your work. Interpret the meaning of intercept and slope coefficient of equation.
5. If we would like to estimate such relationship in billions of dollars for GPDI and millions of dollars for GDP, what will happen to all estimators ($\hat{\beta}_1^*$, $\hat{\beta}_2^*$, $se(\hat{\beta}_1^*)$, and $se(\hat{\beta}_2^*)$) ? Show your work. Interpret the meaning of intercept and slope coefficient of equation.