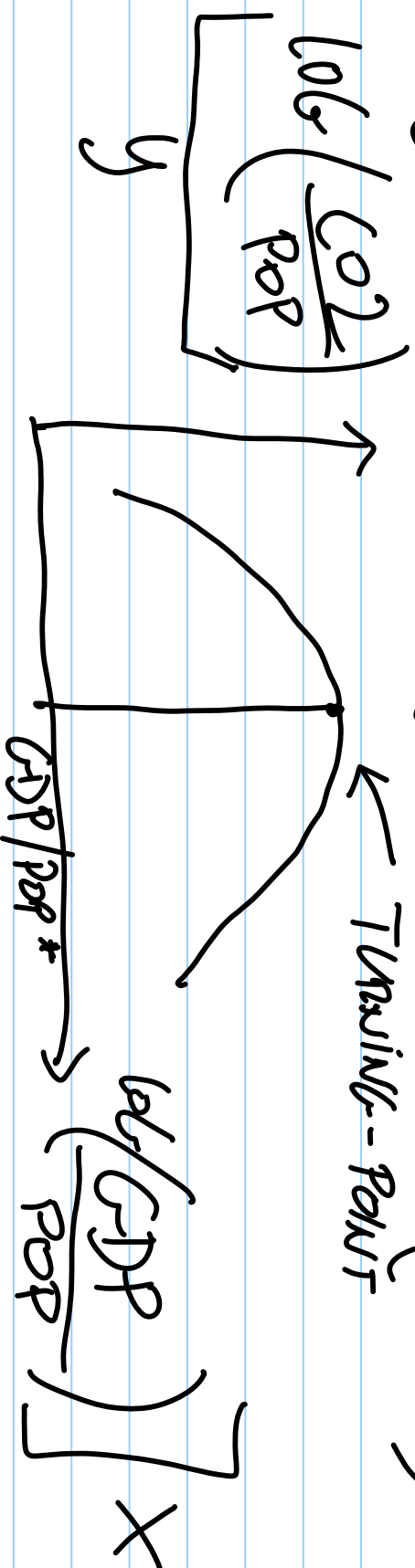


MILKROECONOMIA - LABORATORIO 1

DATI: EKC - SURVE. DATA

CURVA DI KUZNETS AMBIENTALE (EKC)



Modello :
$$y_{it} = \alpha_i + \beta_{2i} X_{it} + \beta_{3i} X_{it}^2 + U_{it}$$

$i = 1 \dots K = 3$ (PAESI EUROPEI : ITA/SVE/UK)
 $t = 1 \dots T = 146$ (ANNI)

$\beta_{2i} > 0$, $\beta_{3i} < 0$ SECONDI
ATTRESI

USE FILENAME.DIA

LIST

GEN(EQATIE) $X_{12} = X_{11}^1 2$

GEN $X_{22} = X_{21}^1 2$

GEN $X_{32} = X_{31}^1 2$

REG(ness) y_1 X_1 X_2

$F(2, 143)$? \rightarrow NUMBER OF RESTRICTIONS
 $T-K = 146 - 3$

$H_0: \beta_{2i} = \beta_{3i} = 0$ (TEST F PEN "ZERO SLOPES")
NULL HYPOTHESIS

$$TSS_c = \sum_{t=1}^T (y_{it} - y_{i0})^2$$

DAVE $y_{i0} = \frac{1}{T} \sum_{t=1}^T y_{it}$

$$TSS_c = ESS_c + RSS_c$$

EXPLAINED

↳ RESIDUAL

$$ESS_v = \sum_{t=1}^T (\hat{y}_{it} - \hat{y}_{i0})^2$$

DOVE $\hat{y}_{i0} = y_{i0}$

SE ESISTE
UNA COSTANTE

$$RSS_v = \sum_{t=1}^T (\hat{y}_{it} - \hat{y}_{i0})^2$$

DOVE $\hat{y}_{i0} = 0$

NON
ESISTE
UNA COSTANTE

$$\hat{\sigma}_L^2 = \frac{RSS_i}{T-k} = \frac{31.97}{143}$$

$$\sqrt{\hat{\sigma}_L^2} = \hat{\sigma}_L = \text{RMSE}_i$$

$$y_{it} = \widehat{y}_{it} + \widehat{u}_{it}$$

↓ ↓ ↓
ACTUAL FITTED RESIDUALS

PREDICT y_{1HAT}

PREDICT u_{1HAT} , RESID

$$y = X\beta + U$$

$$\hat{\beta} = (X'X)^{-1}X'y \quad \text{OLS}$$

$$\hat{y} = X(\hat{\beta})$$

Summarize) y_1 y_2 THAT U_1 THAT

REG y_1 X_{11} X_{12} , NOCONST

SCATTER y_1 y_2 X_{11}

TEST $X_{11} = X_{12}$ $H_0: \beta_{21} = \beta_{31}$

TEST $X_{11} = X_{12} = 0$

SUREG (y1 x1 x12) (y2 x2 x22) (y3 x3 x32)
CORR)

RNLSH-PALMS TEST

$$H_0: \beta_{12} = \beta_{13} = \beta_{23} = 0$$

CLEAR

EXIT