**I EXAMEN**

**ECONOMETRIA I**

1. Suponga que Ud. Intenta ajustar el siguiente modelo de regresión:



Donde:









 

 



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Donde:

 Importaciones (Millones de S/. 2007)

 CP (Millones de S/. 2007)

 RIN (Millones de $US)

 TI (Índice 2007=100)

Utilizando el archivo Data\_Examen parcial

1. Estime los parámetros del modelo propuesto
2. Obtenga los efectos de corto plazo y largo plazo del CP, las RIN y los TI sobre las importaciones
3. Suponga el siguiente modelo de ecuaciones simultáneas:

Yt = Ct + IBt + Xt – Mt

Ct = CPt + CGt

IBt = IPt + IGt + STOCKt

BCt = Xt - Mt

CPt = a1 + a2Yt + a3CPt-1

IPt = a4 + a5(Yt-1 - Yt-2) + a6Mt

Mt = a7 + a8TIt-1 + a9Ct + a10RIN

Utilizando la información contenida en: Data\_Examen parcial.

1. Estime los parámetros estructurales del modelo mediante el método de mínimos cuadrados de dos etapas.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| System: SYS01 | | | | |
| Estimation Method: Two-Stage Least Squares | | | | |
| Date: 06/09/19 Time: 10:16 | | | | |
| Sample: 1982 2017 | | | | |
| Included observations: 36 | | | | |
| Total system (balanced) observations 252 | | | | |
| Instruments: RIN X STOCK IG CP(-1) Y(-1) Y(-2) TI(-1) CG C | | | | |
|  | Coefficient | Std. Error | t-Statistic | Prob. |
| C(1) | 3342.210 | 2320.448 | 1.440330 | 0.1511 |
| C(2) | 0.340859 | 0.044855 | 7.599170 | 0.0000 |
| C(3) | 0.466722 | 0.079546 | 5.867323 | 0.0000 |
| C(4) | -1166.115 | 1095.523 | -1.064437 | 0.2882 |
| C(5) | 0.003777 | 0.062099 | 0.060815 | 0.9516 |
| C(6) | 0.781257 | 0.020829 | 37.50842 | 0.0000 |
| C(7) | 13482.95 | 11389.38 | 1.183818 | 0.2376 |
| C(8) | -91.43039 | 76.45177 | -1.195923 | 0.2329 |
| C(9) | 0.128444 | 0.064461 | 1.992589 | 0.0474 |
| C(10) | 1.239598 | 0.244062 | 5.079019 | 0.0000 |
| Determinant residual covariance | | 2.48E-17 |  |  |
| Equation: Y=CT+IB+X-M | | | | |
| Observations: 36 | | | | |
| R-squared | 1.000000 | Mean dependent var | | 268188.7 |
| Adjusted R-squared | 1.000000 | S.D. dependent var | | 115630.1 |
| S.E. of regression | 3.77E-05 | Sum squared resid | | 5.13E-08 |
| Durbin-Watson stat | 2.565302 |  |  |  |
| Equation: CT=CP+CG | | | | |
| Observations: 36 | | | | |
| R-squared | 1.000000 | Mean dependent var | | 203096.6 |
| Adjusted R-squared | 1.000000 | S.D. dependent var | | 82566.53 |
| S.E. of regression | 1.25E-05 | Sum squared resid | | 5.60E-09 |
| Durbin-Watson stat | 2.142856 |  |  |  |
| Equation: IB=IP+IG+STOCK | | | | |
| Observations: 36 | | | | |
| R-squared | 1.000000 | Mean dependent var | | 55698.42 |
| Adjusted R-squared | 1.000000 | S.D. dependent var | | 35326.89 |
| S.E. of regression | 1.52E-05 | Sum squared resid | | 8.32E-09 |
| Durbin-Watson stat | 2.663171 |  |  |  |
| Equation: BC=X-M | | | | |
| Observations: 36 | | | | |
| R-squared | 1.000000 | Mean dependent var | | 9393.709 |
| Adjusted R-squared | 1.000000 | S.D. dependent var | | 10843.77 |
| S.E. of regression | 2.15E-05 | Sum squared resid | | 1.66E-08 |
| Durbin-Watson stat | 2.382197 |  |  |  |
| Equation: CP=C(1)+C(2)\*Y+C(3)\*CP(-1) | | | | |
| Observations: 36 | | | | |
| R-squared | 0.996172 | Mean dependent var | | 172444.5 |
| Adjusted R-squared | 0.995941 | S.D. dependent var | | 69797.38 |
| S.E. of regression | 4447.078 | Sum squared resid | | 6.53E+08 |
| Durbin-Watson stat | 0.953058 |  |  |  |
| Equation: IP=C(4)+C(5)\*(Y(-1)-Y(-2))+C(6)\*M | | | | |
| Observations: 36 | | | | |
| R-squared | 0.986688 | Mean dependent var | | 43120.80 |
| Adjusted R-squared | 0.985881 | S.D. dependent var | | 30241.94 |
| S.E. of regression | 3593.487 | Sum squared resid | | 4.26E+08 |
| Durbin-Watson stat | 0.459490 |  |  |  |
| Equation: M=C(7)+C(8)\*TI(-1)+C(9)\*CT+C(10)\*RIN | | | | |
| Observations: 36 | | | | |
| R-squared | 0.981968 | Mean dependent var | | 56641.83 |
| Adjusted R-squared | 0.980278 | S.D. dependent var | | 38400.93 |
| S.E. of regression | 5392.885 | Sum squared resid | | 9.31E+08 |
| Durbin-Watson stat | 0.949919 |  |  |  |

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Y=CT+IB+X-M

CT=CP+CG

IB=IP+IG+STOCK

BC=X-M

CP=3342.210329+0.3408589338\*Y+0.4667216916\*CP(-1)

IP=-1166.114836+0.003776522207\*(Y(-1)-Y(-2))+0.7812565123\*M

M=13482.95083-91.43038815\*TI(-1)+0.1284436488\*CT+1.239597799\*RIN

1. Según la teoría económica y la significancia individual evalúe los resultados y determine el modelo estructural apropiado a utilizar.
2. Suponiendo que los próximos 5 años las RIN evolucionan según la tasa de crecimiento promedio de los últimos cuatro años, los TI aumentaran en 4% y las X en 8%. Además, considere que las variables exógenas internas evolucionaran según las siguientes tasas de crecimiento:

* CG = 0.3%
* IG = 15%
* STOCK = 5%

Con el modelo propuesto, ¿Cuál es la tasa de crecimiento anual de los próximos 5 años? ¿Y el resultado de la balanza comercial?