

TEST 3- EMPA
(DEGREE IN ECONOMICS)
TERM 17/18
14.11.2017

- 1.- Indicate "Test-EMPA 14.11.17" in each page.
- 2.- ERASE anything in the recycle Bin and in D:/ directory or in My Documents related to GAMS or EMPA.
- 3.- Do not indicate the name in any of the sheets delivered.
- 4.- Do not sign the sheets delivered.
- 5.- Relative importance of the questions: see % in each question.
- 6.- Do not show your answers when asking questions about the test.
- 7.- Sign the assistance sheet.
- 8.- You cannot pass the test if you fail two of the questions or if you leave a question unanswered.
- 9.- You are only authorized to use the GAMS program (including manuals and libraries), Excel, the virtual campus and Google translate.
- 10.- Please put FIRST your ID and then the name of the question as the name of the file. Do not upload any files not mentioned in your answers or any unnecessary files (*.lst, *.gpr, *.log etc). Do not upload zip files.
- 11.- Grades: 21th November 2017 (20:00)
- 12.- Revision of test results: tutorials time during the first two weeks after the grades are published.
- 13.- Duration 120 minutes

QUESTION N. 1: (Close economy) 50%

A) Using the file "Subsidy.gms" answer the following questions:

- 1) Incorporate a report variable that includes information on production, consumption and relative prices of goods and factor. It should also include the level of the subsidy, and the change in welfare and in the use of the factor. Simulate an increase of a 20% in the Labor used by good Y2 and comment the results.
- 2) Include in the model the possibility to generate a certain increase in the level of capital in any of the goods produced.
- 3) Simulate an increase of a 20% in the Capital used by good Y2. Comment the results.
- 4) Compare both outcomes.

Incorporate the models and the comments in a file called DNI_Subsidy.gms

QUESTION N. 2 (Taxes on the benchmark) 30%

A) Starting with file "BMTAX1.gms" generate a new model (called DNI-BMTAX2.gms") that uses the following benchmark data, considering there exists a 5% tax on good Y and a 50% tax on the capital used by activity Y:

TABLE BMFLOW(*,*) BENCHMARK FLOWS

	X	Y	W	CONS	ROWSUM
X	120		-120		0
Y		120	-120		0
UTIL			240	-240	0
L	-40	-80		120	0
K	-80	-?		?	0
TAX_K		-?		?	?
TAX_PROD		-?		?	?
COLSUM	0	0	0	?	?

B) Which of both taxes is more distortionary? Explain your conclusion.

Incorporate the model and the comments in a file called DNI_BnmkTax.gms

QUESTION N. 3 (Armington trade) 20%

A) Describe with a graph the model "Armington1.gms", specifying the functional forms in each nest including the elasticity used. Specify also the different quantities in the benchmark.

B) Using the file "Armington1.gms", change the functional form for utility to a CES function with elasticity equal to 1.5 and save the new model as "DNI-Armington.gms".

Incorporate the model and the comments in a file called DNI_Armington.gms