

Urban Economics
Problem Set #2
Due, Thursday, Oct 1, 11pm, ONLY ONLINE!

- 1) No late problem sets**
- 2) You can only upload one single file. No multiple file submissions.**
- 3) For this Problem Set we only accept EXCEL formats.**
- 4) Show your work**

(1) Go to Harvard’s Cluster Mapping Project’s main site (<http://clustermapping.us>) and click on “Clusters.”
 Scroll down until you see “Show Clusters by – List.”. Select **PRINTING** under Traded Clusters and scroll to the map on top.
 (You must go to the map – don’t download any data if you don’t see the map)

a) On the left sidebar you now have various choices; select Economic Areas.
 For 1998 and for 2017 calculate CR4, HHI and Gini Coefficients for *employment* and for *annual payroll* (which is the product of *Employment*Annual Wage*). For the Gini Coefficient, assume that all regions are of identical size. Make sure you match each area’s employment with its corresponding wage. Overall, you have to calculate 12 coefficients (see table below).

NOTE:

- Make sure you have 179 Economic Regions in both years, 1998 and 2017. Since there are only 177 regions listed for 2017, impute two zero regions (like I did in class)
- in case the wage is listed as zero, treat it as zero; don’t delete it.

b) Do you notice any inconsistency in your findings?

Year	CR4	HHI	GINI
Employment			
1998 (179 Econ Regions)			
2017 (179 Econ Regions)			
Annual Payroll			
1998 (179 Econ Regions)			
2017 (179 Econ Regions)			

- (2) There are 8 equally-sized counties in Corn-Land, which heavily depend on the production of corn. The corn industry employment in the respective counties is given by:

County	A	B	F	H	C	D	E	G
Corn jobs	125	25	180	15	10	100	10	35

Calculate the Gini coefficient of job concentration (report 4 decimals)

- (3) Assume there are only 6 counties in a country, and there are only three industries (beer, bread and shirts) that employ people. The employment numbers are given in the Table below:

	Employment Beer	Employment Bread	Employment Shirts
County 1	20	4	45
County 2	10	6	12
County 3	12	10	10
County 4	60	10	16
County 5	10	2	12
County 6	2	6	12

Calculate the ELQs for the following county and industry combinations:

- (a) Beer and County 3
- (b) Bread and County 2
- (c) Shirts and County 1