

# Geographical Economics Winter 2012/2013

## Assignment #1: Due January 15th 2013

### General information

This problem set MUST be solved individually. Each student MUST turn in the copy of the solution on paper support. Do not forget to identify at the beginning of each page. There are not specific requirements about the format (font, lines etc) of the document students are expected to turn in.

**The solution of this assignment MUST be turned in at the beginning of the class. No delay or extra time will be granted. Exercises #1, #2, #3 score 2 points each and exercise #4 score 4 points.**

### 1 Exercise #1

- In these first sessions, you learnt that economic activity is clearly not distributed randomly across the world. How would you explain this, by assuming that you can use only the neoclassic trade or growth theory for your answer ?
- Increasing returns to scale are important in new trade theory. Explain for the following example which kind of returns to scale are relevant. Let us consider a firm  $i$  that faces the following cost function:

$$l_i = \alpha + \beta x_i,$$

where  $l_i$  is the amount of labor to produce the output  $x_i$ ,

### 2 Exercise #2

Let us consider a framework *à la* Krugman (1991 or 1999) with two regions (North and South). We assume we have a group of perfectly mobile firms and mobile workers. Only farmers are immobile, and we assume they equally spread across the territory. Consider the case of one firm which would like to open a second plant. Transport costs exist but we do not know their level. In this circumstances,

1. If all firms have a single plant in the South, what is optimal for your firm ?
2. Suppose that all firms have two plants, one in each location: what is optimal for your firm ?

### 3 Exercise #3

In the core model of geographical economics there is international labor mobility. In the HO model there is no capital mobility between countries. Explain why the introduction of labor mobility is at odds with the analysis underlying the factor abundance model.

## 4 Exercise #4

Collect information about the export flows from Catalunya by visiting the IDESCAT webpage (<http://www.idescat.cat/economia/inec?tc=5&id=5903&dt=201100&lang=en>). You need also to collect information about

- Catalan (nominal) GDP  
(<http://www.idescat.cat/economia/inec?tc=5&id=5107&dt=201100&lang=en>),
- (nominal) GDP by (principal) commercial partners  
([http://epp.eurostat.ec.europa.eu/portal/page/portal/national\\_accounts/data/database](http://epp.eurostat.ec.europa.eu/portal/page/portal/national_accounts/data/database))
- and distance data can be obtained by visiting <http://www.viamichelin.es/> or any other similar website.

**Consider one (or two) potential Catalan export destination(s) and estimate the basic gravity model** in order to understand to which extend the key-standard variables help to understand the export intensity toward this destination.

Beyond discussing the results, provide the FULL OUTPUT you get from STATA or any other econometric software.

Which is the coefficient you get in correspondence of the distance variable ? Is it in line with the general findings in economic literature ?

[Hints: it is better to avoid to introduce time dummy variables because of the low variance of the series you are using].