Economics 641 Fall 2017 - Problem Set 2

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Due Date: December 31, 2018

Migration and Trade

Consider a world composed of N regions, indexed by i, j. At time 0, each region i is endowed with $\bar{L}_i$ workers.

Geography:

- The iceberg trade cost is $\tau_{ij} \geq 1$, with $\tau_{ii} = 1$.
- The iceberg migration cost is $\mu_{ij} \geq 1$, with $\mu_{ii} = 1$.

Technology: Goods are differentiated by their region of origin. Production requires only labor. An efficient unit of labor produces A_i units of good i, and receives wage w_i.

Timing: At time 1:

- Workers migrate and work
- Markets clear

Productivity heterogeneity

Suppose workers born in i are heterogeneous in terms of their productivity to work in region j. In particular, assume productivity is drawn i.i.d across workers and destinations from a Frechet distribution:

$$G_{ij}(\epsilon) = \exp\left(-\epsilon^{-\kappa}\right).$$

Assume that migration costs μ_{ij} act as a decrease in efficiency when moving.

1. Taking efficiency wages as given $\{w_i\}$, calculate the fraction of workers who migrate from i to j.
2. Calculate average **real earnings** for workers from i, conditional on migrating to j
3. Calculate average **real earnings** for workers from i.
4. Calculate trade flows from i to j.
5. Taking as given $\bar{L}_i$, define an equilibrium for this economy.
6. What happens as $\kappa \to \infty$?
7. Compare the result in 6 to an economy where workers can move freely across regions (as in Allen and Arkolakis, 2014).