

UNIVERSITY OF CALIFORNIA AT BERKELEY
Department of Economics

International Economics
Field Exam

January 2015

GENERAL INSTRUCTIONS:

This is a three-hour field exam. Answer **ALL** of **four** questions

Question 1

Consider a multi-sector Armington trade model. There are N countries indexed by n, i, j and S sectors indexed by s, k . Preferences are Cobb-Douglas across sectors with shares β_s and CES within sectors with elasticity of substitution σ (assumed the same across sectors for convenience). Iceberg trade costs are $\tau_{ni,s}$ for imports by n from i , with $\tau_{nn,s} = 1$ for all n, s . Let $\lambda_{ni,s} \equiv X_{ni,s} / \sum_j X_{nj,s}$ be the trade shares in sector s (share of expenditure in sector s n devoted to sector s goods from i). The only factor of production is labor and technology is linear in labor (CRS) with productivity $A_{i,s}$.

a) Imagine that labor is freely mobile across sectors. Derive an expression for the gains from trade for country n . (Do this quickly so you can spend more time on part b.)

b) Imagine that labor is specific to each sector (i.e., it cannot reallocate as we move to autarky). In what ways is the expression that you derived in (a) missing part of what affects the gains from trade? How would you define the aggregate gains from trade and how would you define the gains from trade for workers in each sector? Would you expect the aggregate gains from trade to be higher or lower when labor is specific to each sector compared to the standard case of perfectly mobile labor? Go as far as possible in deriving an expression for the gains from trade for workers in each sector.

Question 2

a) Write down the “structural gravity” equation that Head and Mayer discuss in their handbook chapter and define each of the terms.

b) In empirical applications, the bilateral resistance term is proxied for by log distance. How would you expect the distance coefficient to be biased if we estimated a “naïve gravity” equation that omits the multilateral resistance terms, and why?

c) Could one use an estimate of the distance coefficient to back out the trade elasticity used to compute the gains from trade in Arkolakis, Costinot and Rodriguez-Clare (2011)?

Question 3

Consider a two-country, symmetric, infinite horizon, discrete time, single good endowment economy with a complete set of contingent claims. Preferences over consumption are identical in both countries, additively separable and exhibit constant degree of relative risk aversion (CRRA):

$$U_t = E_t \sum_{s=t}^{\infty} \beta^{s-t} u(c_s)$$

with $u(c) = (c^{1-\sigma} - 1) / (1 - \sigma)$ where $\sigma > 0$ is the CRRA coefficient and $0 < \beta < 1$ is the discount factor.

1. Show that the equilibrium allocation exhibits perfect consumption risk sharing: $c = c^* = \bar{y}$ where c and c^* denote respectively domestic and foreign consumption per capita, and \bar{y} is the global endowment per capita of the single good.
2. Show that this equilibrium can be achieved simply by trading claims to domestic and foreign current and future endowments (equities), and that the equilibrium portfolio holdings are perfectly diversified.
3. The empirical evidence strongly indicates that (a) consumption is not perfectly correlated across countries and (b) international equity portfolios are strongly biased toward domestic stocks. To explain these deviations from the baseline model, the literature has explored two possible lines of enquiry: frictions in financial markets and frictions in good markets. Discuss in detail how in your view *each* of these approaches can or cannot account for the empirical evidence. Be sure to provide specific answers with appropriate references to the relevant literature.

Question 4 Present and discuss at least two specific models that can account for the following empirical facts:

- a) the marginal product of capital is largely equalized across countries;
 - b) over the last twenty years, capital has been flowing (on net) from rapidly growing developing and emerging countries towards more mature economies
 - c) over the last twenty years, world real interest rates have declined;
- You will discuss precisely the mechanism in each model that generates the results.