

International Economics Field Exam – Summer 2022

ANSWER THREE OF THE FIVE QUESTIONS BELOW. EACH IS WORTH 30 POINTS. YOU HAVE THREE HOURS (180 MINUTES). BUDGET YOUR TIME ACCORDINGLY.

Question 1 (Cecile – 280D)

Part 1 (20 points)

Answer the following questions in reference to Monte, Redding, and Rossi-Hansberg (2018) “Commuting, Migration, and Local Employment Elasticities”:

(i) (5 points) What is the key difference between this model and a spatial equilibrium model a la Allen and Arkolakis (2014) or Redding (2016)? In what empirical context is it particularly relevant to use a setup a la Monte et al (2018) rather than Allen and Arkolakis (2014) or Redding (2016)?

(ii) (5 points) Show formally how a model of this type predicts gravity in commuting flows (you can simplify assumptions vs. their model, so long as you obtain gravity). What structural parameter(s) of the model govern the commuting elasticity?

(iii) (5 points) How do Monte et al. (2018) test the predictions of their model? What prediction do they test?

(iv) (5 points) Do you find their test convincing? Why or why not? Can you think of an alternative way to test the model?

Part 2 (10 points)

Consider a spatial economy in which labor is homogeneous and labor markets are competitive so that workers are paid their marginal product in each city. Assume that the researcher measures the marginal productivity of labor (MPL_i) in city i using wage data and finds that $MPL_i \neq \text{constant}$.

Does that mean that the economy is inefficient? If not, what is the proper test for efficiency (you can answer in words or with equations) in this spatial context, and what additional information is needed to assess efficiency?

Question 2 (Pierre-Olivier – 280B)

1. (15 points) Triffin Dilemma

In 1961, Yale economist Robert Triffin argued that the Bretton Woods system of fixed but adjustable exchange rates, in which the dollar was pegged to gold at \$35/oz, was unsustainable. Triffin argued that the U.S. would ultimately face a run on the dollar. Review Triffin's argument. A recent literature argues that Triffin's dilemma can arise even under floating exchange rates. Discuss this 'modern' version of Triffin dilemma, how it is related to the issue of safe asset scarcity, and present the elements of a model to explain it. In your view, how can the dilemma be solved?

2. (15 points) Term Premia and Exchange Rates

- (a) In the standard off-the shelf international macro model (where both the Uncovered Interest Parity condition and the Expectation Hypothesis of the term structure hold), explain (a) why the foreign yield curve is insulated from exogenous changes in the domestic policy rate; (b) why quantitative easing – i.e., purchases of long maturity bonds by the central bank – has no effect on the either yield curves or the exchange rate.
- (b) Empirical evidence suggests that (a) exogenous changes in domestic policy rates generate predictable excess returns on currency, home and foreign bond markets; (b) central banks' quantitative easing has a significant impact on the domestic term structure, exchange rates and the foreign term structure. Discuss how the

standard model can be amended to account for these empirical facts.

Question 3 (Maury – 280C)

1. (15 points) Central banks sometimes intervene in the currency markets to influence exchange rates via “sterilized intervention.” Briefly define that concept, and sketch sufficient conditions for it **not** to be effective. What are two theoretical approaches that allow sterilized intervention to work independently of conventional monetary policy, even when a country’s capital markets are open to the rest of the world?
2. (15 points) Central banks are raising policy interest rates across the world economy, after lowering them sharply in 2020. In your opinion, does this mean that the days of low long-term real interest rates are over? Discuss with respect to theories of “secular stagnation” that we discussed in class.

Question 4 (280A – Nick and Ben)

Part 1 (Nick) (15 points)

Consider the following multi-region Eaton and Kortum (EK) model. There are N regions indexed by i . Workers have CES preferences over varieties as in EK with elasticity of substitution σ . Iceberg trade costs are τ_{ni} for imports by n from i , with $\tau_{nn} = 1$ for all n . Let π_{ni} be the trade shares (share of expenditure in n devoted to goods from i). The only factor of production is labor and technology is linear in labor (CRS). Productivity for each variety $\rho \in [0,1]$, $Z_n(\rho)$, is drawn from a Frechet distribution so that $\Pr(Z_n(\rho) < z) = \exp(-T_n z^{-\theta})$. Assume that θ is the same across regions for convenience, and that $\theta > \sigma - 1$.

(i) (2 points) Assume labor is perfectly immobile across regions. Derive the gains from trade (moving from costly trade to autarky).

(ii) (5 points) Now assume labor is imperfectly immobile across regions. In particular, suppose workers have idiosyncratic preferences across regions, $v_n(\omega)$, for worker $\omega \in [0, \bar{L}]$ (where \bar{L} is the total number of workers in the economy) so that utility from living in region n is $U_n(\omega) = \left(\frac{w_n}{P_n}\right) v_n(\omega)$. Assume these preferences are drawn from Frechet distribution so that $\Pr(v_n(\omega) < v) = \exp(-B_n v^{-\epsilon})$ with $\epsilon > 1$. Derive the gains from trade. Is this a practical expression, compared to the case with labor immobility?

(iii) (5 points) Now suppose you have data spanning multiple years from China that built a large road network during the 1990s and 2000s. Augment the expression above to consider the gains from moving between two costly trade equilibria. Is the expression more useful? What data and parameters would you require to compute the welfare effects from the networks? And how does the value for ϵ affect how you would map changes you see in the data to welfare gains?

(iv) (3 points) Suppose you have data on changes in regional populations, and real wages in each region, before and after the highway construction. How could you use this to estimate ϵ , and what threats are there to identification?

Part 2 (Ben) (15 points)

The abstract of Autor, Dorn and Hanson (2013) states: “*In our main specification, import competition explains one-quarter of the contemporaneous aggregate decline in US manufacturing employment.*”

(i) (7.5 points) Describe how their analysis comes to this conclusion, and state your main concern/objection regarding their cited statement above.

(ii) (7.5 points) Pick another (one) paper we have discussed in class that uses region-level comparisons (regressions) to inform the estimation of aggregate (country-wide) implications. Describe how they estimate aggregate implications and compare this to Autor, Dorn and Hanson (2013) above.

Question 5 (270C - Ben) (30 points)

Answer the following questions in reference to Young (2012) “The African Growth Miracle” and Atkin, Faber, Fally and Gonzalez-Navarro (AFFG, 2020) “A New Engel on Price Index and Welfare Estimation”:

(i) List the main pieces of information (variables) used in Young (2012) to estimate real income growth rates in Africa. [You can use only one example for a consumption item/category]. Briefly outline the system of equations that allow him to use these observed variables for backing out unobserved changes in real incomes. [7.5 points]

(ii) What is the main theoretical objection in AFFG (2020) to Young’s approach and other papers that follow the traditional Engel curve method for estimating unobserved changes in real incomes? [7.5 points]

(iii) Describe the alternative approach in AFFG (2020): which observed moments are used how to estimate unobserved changes in real income over time? What assumptions need to hold for Proposition 1 in their paper? [7.5 points]

(iv) Even if Proposition 1 holds in theory (assumptions are satisfied), discuss 3 remaining potential concerns that could bias the estimate of real income changes in AFFG when implementing Proposition 1 to the available data. [7.5 points]