Problem Set 1 (Part 1)

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The main focus of this pset will be on Ben Moll's job market paper, which can be accessed at

http://www.princeton.edu/~moll/TFPFF.pdf

We will go through the derivation of the model, and along the way compare/contrast it to similar models seen in lectures 2-4.

1. Interpret the constraint in equation (5) of the paper. How does this compare to the constraint in Gine and Townsend (2004). What λ values correspond to the two sectors of that economy.

2. How is talent modeled in this paper. Derive the cutoff talent point $\underline{z}$. In Buera, Kaboski and Shin (2010) cutoff talent depends on asset. Is it the case here? Name two factors behind the difference.

3. What occupation choice, if any, does individuals face in this paper? How does this affects market clearing compared to the models we have seen in class?

4. From the firm's problem, you should find that profit is linear in asset. Show and explain how this translate to a linear saving policy.

5. Solve for the market equilbrium, and show that the economy on aggregate is equilavent to a Solow model. Write down the expression for TFP. How does it depend on talent of individuals in the economy.

6. Given stationary wealth shares $\omega(z)$, show that in the steady state $\frac{K}{Y} = \frac{\alpha}{\rho + \delta}$

7. Your friend just read Japelli & Pogano (1994), which found that country with tighter credit constraint has higher $\frac{K}{Y}$. He sees equation in #6, and conclude that in this paper, credit constraint does not affect the economy. How would you explain to him.

8. The paper defines $\omega(z, t)$ as the share of wealth held by talent type z at time t. Describe $\lim_{t \to \infty} \omega(z, t)$ for the case where (i) individual's talent is fixed; and (ii) individual's talent is i.i.d. over time. Which case leads to higher GDP in the long run? How about in the short run?

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