COMPREHENSIVE EXAM IN MONETARY THEORY

UCLA, Department of Economics

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Instructions: You have four hours to complete this exam. There are two parts. **Answer each part in a separate blue book.**

Part One (*Blue Book Number 1*)

This question is about equilibrium rates of return for a safe asset in the Bewley model. Suppose that an economy consists of two (equally numerous types of) infinitely-lived households $h = 1,2$ with common utility function

$$u^h = \sum_{t=0}^{\infty} \beta^t \log c_t^h \qquad 0 < \beta < 1.$$

Both households consume a single, perishable consumption good. Household $h=1$ is endowed with a fraction $\theta \in [1/2,1]$ of the periodic income stream $(1,0,1,0,...)$ and with a fraction $1-\theta$ of the periodic stream $(0,1,0,1, ...)$. Household $h=2$ is endowed with $1-\theta$ of the first stream and θ of the second one. Aggregate income is 1 in each period $t \geq 0$.

There are two stores of value: personal loans in zero net supply, and land in net supply of one unit. Land is a "bubble" that never yields any dividend or service.

(a)   Suppose markets are complete and expectations are rational. Find the equilibrium sequence $(R_t, \pi_t)_{t=0}^{\infty}$ for the loan yield R_t and the land price π_t expressed in terms of the consumption good. [Hint: Use the Euler equations and market clearing).

(b)   Do equilibrium prices depend on the distribution of endowments over households? Explain why or why not.

(c)   Find the equilibrium consumption sequences (c_t^1, c_t^2) for the two households.

(d)   Calculate the asset position α_h^t of each household at the end of period t, where α_h^t represents the value of all claims by household h on land and on other households.

(e)   Impose a no-borrowing constraint $\alpha_h^t \geq 0$ on each household h=1,2 for each $t \geq 0$. Redo part (a) under this constraint. [Hint: Be very careful with the Euler equation].

(f)   Compare the rates-of-return you found in (e) with each other and with those in part (a). What do you conclude about the impact of credit rationing on the price of bubbles? On the rate of return for loans? [Hint: Interpret loan yields as "shadow" rates of interest.]

Part Two (*Blue Book Number 2*)

Choose **two** of the following three questions. In either case you are asked to provide a formal model that can be used to study the issue described. Give a detailed description of the model, including a definition of equilibrium. Discuss how the model can be used to provide an answer to the questions posed. Be specific.

    A. If unemployment insurance cannot be obtained through private markets, than government provided unemployment insurance may be welfare improving since it helps individuals who face idiosyncratic employment risk to smooth consumption. On the other hand, unemployment insurance may discourage individuals from working and lead to lower welfare. Is government provided unemployment insurance welfare enhancing? How large are these welfare benefits (or costs)? How much insurance should be provided to workers through such a program?

    B. Often economists have argued that shocks to the money growth rate can lead to fluctuations in real economic activity. How large would aggregate fluctuations be if monetary shocks were the only stochastic disturbance to the economy? How do variables such as output, consumption, hours worked, investment and the capital stock respond to a money growth shock?

    C. How large is precautionary savings relative to what would be saved if there were markets for insuring idiosyncratic risk?

Make sure you read the instructions at the top of the page before answering either of these questions!!!