

Econ 807: Midterm 1

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Instructions. Please write neatly and label all diagrams clearly. Limit your answer to the space provided below each answer.

1. Explain (in words only) the interpretation of the business cycle provided by RBC theory and provide a brief critique.

2. Consider an economy populated by a representative agent with preferences $U_t = c_t - H(n_t)$ and production technology $y_t = A_t F(n_t)$. All variables and functions are as we have defined in class. Define A denote the expected value of A_t and let n^* satisfy the condition: $AF'(n^*) = H'(n^*)$. Show how the government could, in principle, design a state-contingent income tax $\tau_t = \tau(A_t)$ that stabilizes employment at n^* over the business cycle. Are people better off as a result of this stabilization policy? [Assume that the tax/subsidy is redistributed as a lump-sum transfer T_t ; i.e., $T_t = \tau_t y_t$].