Midterm Exam 2, April 4—6 questions. All sub-questions carry equal weight except where otherwise indicated.

1. (20%) This question is about the Campbell-Mankiw rule-of-thumb (rot) consumer model.

a) Write down the model and explain the content.
b) Assume that you have time series of data on (aggregate) income and consumption. Let y_t be income and c_t be consumption. Assume that income is well describe by a stationary AR(1) in differences and that the covariance between Δy_t and Δy_{t-1} is 0.5 while the variance of Δy_t is 1.0. Further assume that when you regress Δc_t on Δy_{t-1} you get a coefficient of 0.4.
Given these numbers, what is the fraction of rot consumers in the Campbell-Mankiw model?

2. (15%) Explain the idea of menu costs. (What does the term mean? Why may small menu costs have large effects on welfare. Reproduce the figure I sketched in class or explain very carefully.)

3. (10%) Explain the relation between "efficient markets" (semi-strong form, in the sense of Fama) and Euler equations.

4. (15%) Consider a two-period model where an asset has a payout PO_X in the second period.
Find the period 1 price of the asset, assuming the CAPM is true. Interpret the formula you find in terms of a discounted expected payoff and a "risk premium."

5. (20%) Derive the consumption CAPM relation as we did in class.

6. (20%) a) *Explain* what is meant by the equity premium puzzle. (To get this question right, you do not need to *derive* the relation in the book, but you should explain what we assume about utility functions etc. and explain clearly. You do not need to remember exact numbers from the book.)
b) Now (starting from the relevant Euler equation) derive the relation between expected returns and risk aversion as we derived it in class to show that there is an equity risk premium puzzle.