UCLA **Fall 2016**
MGMT 239C **Prof. Mikhail Chernov**

Empirical Asset Pricing
Problem Set 4
due 12 hours before the class

Problems

1. Compute the pricing kernel for the BY2 (Bansal – Yaron with stochastic variance) model. Here I mean literally their model rather than an MA representation discussed in class:

$$\begin{aligned} g_{t+1} &= g + x_t + v_t^{1/2} w_{gt+1} \\ x_{t+1} &= \varphi_g x_t + \gamma_1 v_t^{1/2} w_{xt+1} \\ v_{t+1} &= (1-\varphi_v) v + \varphi_v v_t + \nu_0 w_{vt+1} \end{aligned}$$

   Use their calibration to characterize the implication of their model for equity premium and for the spot interest rate. Explore the sensitivity of results to the persistence of volatility (consider the value of 0.999 as an alternative).

2. Replicate the Campbell/Shiller and Cochrane/Piazzesi exercises using the updated dataset (that is, the one ending in 2015). Also, construct truly out-of-sample forecasts of yields or excess returns by running the regressions on a rolling basis (expanding window). Use the 1954-1975 period to "train" your regressions, and then re-estimate every quarter, compare the implied forecasts with actual outcomes. You'll have to think about what "compare" means in this context. How does adding yields with maturities over 5 years affect the results? The yield data are available here.