0.1 Explanation for Section 3, p.2

Household budget constraint (nominal):

$$c_t P_t + M_{t+1} + B_{t+1} = (1 + i_t)B_t + M_t + Y_t,$$

using $A_t = M_{t+1} + B_{t+1}$ and dividing by P_t, we get

$$c_t + \frac{A_t}{P_t} = \frac{A_{t-1}}{P_t} + i_t \frac{B_t}{P_t} + \frac{Y_t}{P_t}.$$

Assume that the households objective is to hold the *end-of-period* wealth constant,

$$\frac{A_t}{P_t} = \frac{A_{t-1}}{P_{t-1}} \text{ for all } t, \tag{1}$$

we get

$$c_t = \frac{Y_t}{P_t} + \frac{A_{t-1}}{P_t} - \frac{A_t}{P_t} + i_t \frac{B_t}{P_t}.$$

Substituting (1), and writing $y_t = \frac{Y_t}{P_t}$ and $b_t = \frac{B_t}{P_t}$, we get

$$c_t = y_t + \frac{A_{t-1}}{P_t}(1 - \frac{P_t}{P_{t-1}}) + i_t b_t = y_t - \frac{A_{t-1}}{P_t}\pi_t + i_t b_t \tag{2}$$

where

$$\pi_t \equiv \frac{P_t - P_{t-1}}{P_{t-1}}.$$

Equation (2) is equation (2') in the lecture notes.