REFINE OF HOUSEHOLD PROBLEM

$$q_t \rightarrow q_{s,t}$$

现状：统计局数据统计的q_t是不含报销部分的expenditure，而我们的$q_{s,t} = m_{s,t}/c_{s,t}$是包含了报销部分的，所以统计局数字需要调整一下。将统计局直接统计出的居民人均医疗支出/总消费的比例记作$\tilde{q}_t$（注意，统计局给出的是某一年的平均值。

$$< Empty\ Math\ Block > \tag{1}$$

问题表述

澄清家庭问题的公式（预算约束）：

首先，家庭问题的 ==工作期== 跨期预算约束（两个名义账户）：

$$\begin{cases} \mathbb{S}_{s,t} a_{s+1,t+1} = (1+r_t)a_{s,t} + (1-\sigma_s-\pi_t-\pi_t^M)w_{s,t}l_{s,t} - (1+\mu_t)[c_s - m_{s,t}^A + (1-cp_t^B)m_{s,t}^B] - \Delta_{s,t}, s=1,\ldots,S_r \\ \mathbb{S}_{s,t}\Phi_{s+1,t+1} = (1+r_t)\Phi_{s,t} + \frac{\Phi_t + \mathbb{A}_t\zeta_t}{1+z_t\eta_t+\zeta_t}w_{s,t}l_{s,t} - (1+\mu_t)m_{s,t}^A + \Delta_{s,t}, s=1,\ldots,S_r \end{cases} \tag{2}$$

合并而来的个人资本$k_{s,t}$：

$$S_{s,t}k_{s+1,t+1} = (1+r_t)k_{s,t} + (1-\sigma_s-\pi_t-\pi_t^M+\frac{\Phi_t+\mathbb{A}_t\zeta_t}{1+z_t\eta_t+\zeta_t})w_{s,t}l_{s,t} - (1+\mu_t)[c_s+(1-cp_t^B)m_{s,t}^B] \tag{3}$$

退休期的两个名义账户：

$$\begin{cases} \mathbb{S}_{s,t} a_{s+1,t+1} = (1+r_t)a_{s,t} + \Lambda_t - (1+\mu_t)[c_s - m_{s,t}^A + (1-cp_t^B)m_{s,t}^B] - \Delta_{s,t}, s=S_r+1,\ldots,S \\ \mathbb{S}_{s,t}\Phi_{s+1,t+1} = (1+r_t)\Phi_{s,t} + \mathbb{P}_t - (1+\mu_t)m_{s,t}^A + \Delta_{s,t}, s=S_r+1,\ldots,S \end{cases} \tag{4}$$

合并而来的个人资本：

$$S_{s,t}k_{s+1,t+1} = (1+r_t)k_{s,t} + \Lambda_t + \mathbb{P}_t - (1+\mu_t)[c_s+(1-cp_t^B)m_{s,t}^B] \tag{5}$$

将两个时期合并起来：

$$\begin{cases} S_{s,t}k_{s+1,t+1} = (1+r_t)k_{s,t} + (1-\sigma_s-\pi_t-\pi_t^M+\frac{\Phi_t+\mathbb{A}_t\zeta_t}{1+z_t\eta_t+\zeta_t})w_{s,t}l_{s,t} - (1+\mu_t)[c_s+(1-cp_t^B)m_{s,t}^B] \\ S_{s,t}k_{s+1,t+1} = (1+r_t)k_{s,t} + \Lambda_t + \mathbb{P}_t - (1+\mu_t)[c_s+(1-cp_t^B)m_{s,t}^B] \end{cases} \tag{6}$$

代入$m_{s,t}^B = q_{s,t}\frac{1}{1+p_s}c_{s,t}$和$m_{s,t}^A = q_{s,t}\frac{p_s}{1+p_s}c_{s,t}$

$$\begin{cases} S_{s,t}k_{s+1,t+1} = (1+r_t)k_{s,t} + (1-\sigma_s - \pi_t - \pi_t^M + \frac{\Phi_t + \mathbb{A}_t\zeta_t}{1+z_t\eta_t+\zeta_t})w_{s,t}l_{s,t} - (1+\mu_t)[1+(1-cp_t^B)q_{s,t}\frac{1}{1+p_s}]c_s \\ S_{s,t}k_{s+1,t+1} = (1+r_t)k_{s,t} + \Lambda_t + \mathbb{P}_t - (1+\mu_t)[1+(1-cp_t^B)q_{s,t}\frac{1}{1+p_s}]c_s \end{cases} \quad (7)$$

标准形式

（其实主要是 E_s 变了）

现在是：

$$E_s = (1+\mu_t)[1+(1-cp_t^B)q_{s,t}\frac{1}{1+p_s}] \tag{8}$$

原来是：

$$E_s = 1+\mu_t - (1-cp_t^B)q_{s,t}\frac{1}{1+p_s} \tag{9}$$