1. Establish a zgrid $z \in \{z_1, \ldots, z_Z\}$
2. For every point on that zgrid, run our existing code, which has a finite horizon (may change if Joe/Abdou figure out infinite horizon), to get
   (a) $\theta(z)$
   (b) $Y(z)$
3. Now assume that we're in the infinite horizon case. We can calculate $a(z)$ as
$$a(z) = \left[ \frac{za(z)}{\psi(Y(z) - \frac{\kappa}{q(\theta(z))}} - \frac{\psi}{\epsilon}(h'(a(z))\sigma_\eta)^2 \right]$$
4. Simulate a load of $(z, \eta)$s and use those to simulate a bunch of wage changes (without solving for the whole model necessarily)
$$\Delta \log w = \psi h'(a(z))\eta - \frac{1}{2}(\psi h'(a(z))\sigma_\eta)^2$$
5. Calculate Variance of these wage changes and try to match the moments. Steps 3-5 are for variance of wage growth of job-stayers. Next: how to calculate cyclicality of new hire wages
6. Now to simulate new hire wages, we calculate, for every $z$
$$\mathbb{E}[\log w_1|z] = \underbrace{\log \left[ \psi \left( Y(z) - \frac{\kappa}{q(\theta(z))} \right) \right]}_{\log w_0} - \frac{1}{2}(\psi h'(a(z))\sigma_\eta)^2$$
7. Simulate long $z_t$ chain, calculate $\mathbb{E}[\log w_1|z_t]$ (new hire wage series), and simulate $u_t$ chain following the below.
8. Regress $\mathbb{E}[\log w_1|z_t]$ on $u_t$ in the simulated data.

SIMULATING UNEMPLOYMENT

For every value of $z$, we can solve the model for $\theta(z)$. Then we simulate a path of $z$ and thus a path of $\theta_t$ then after that, we can use the difference equation
$$u_{t+1} = (1 - f(\theta_t))u_t + \delta(1 - u_t)$$
starting at $u_0 = 6\%$