1 Balanced Growth in $\mathfrak{c}$ and $\text{cov}(c, \mathbf{p})$

Section 4.2 demonstrates some propositions under the assumption that, when an economy satisfies the GIC, there will be constant growth factors $\Omega_{\mathfrak{c}}$ and Ω_{cov} respectively for $\mathfrak{c}$ (the average value of the consumption ratio) and $\text{cov}(c, \mathbf{p})$. In the case of a Szeidl-invariant economy, the main text shows that these are $\Omega_{\mathfrak{c}} = 1$ and $\Omega_{\text{cov}} = \mathbf{\Phi}$. If the economy is Harmenberg- but not Szeidl-invariant, no proof is offered that these growth factors will be constant.

1.1 $\log c$ and $\log(\text{cov}(c, \mathbf{p}))$ Grow Linearly

Figures 1 and 2 plot the results of simulations of an economy that satisfies Harmenberg- but not Szeidl-invariance with a population of 4 million agents over the last 1000 periods (of a 2000 period simulation). The first figure shows that $\log \mathfrak{c}$ increases apparently linearly. The second figure shows that $\log(-\text{cov}(c, \mathbf{p}))$ also increases apparently linearly. (These results are produced by the notebook `ApndxBalancedGrowthcNrmAndCov.ipynb`).

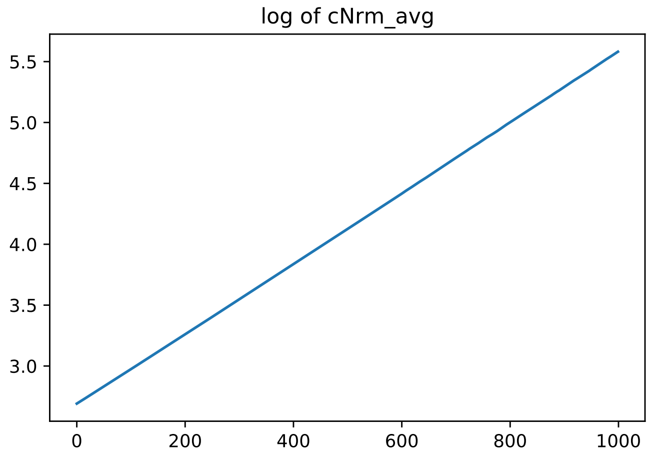

Figure 1 $\log\ \mathfrak{c}$ Appears to Grow Linearly

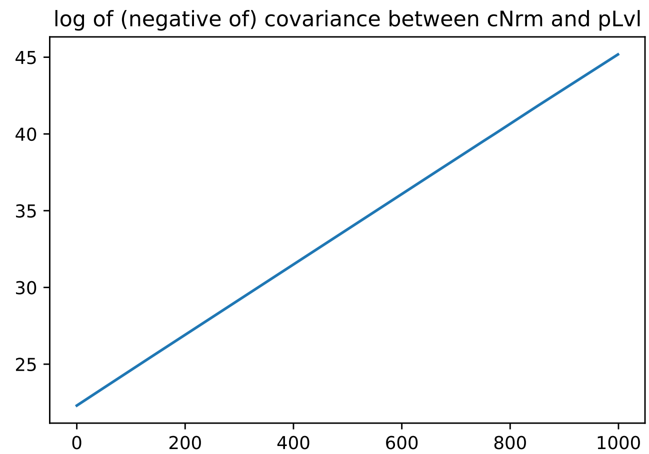

Figure 2 $\log\left(-\mathrm{cov}(c, \mathbf{p})\right)$ Appears to Grow Linearly