# 1 Balanced Growth in $\pmb{c}$ and $\mathrm{cov}(c, \mathbf{p})$

Section 4.3 demonstrates some propositions under the assumption that, when an economy satisfies the GIC, there will be constant growth factors $\Omega_{\pmb{c}}$ and $\Omega_{\mathrm{cov}}$ respectively for $\pmb{c}$ and $\mathrm{cov}(c, \pmb{p})$ In the case of a Szeidl-invariant economy, the main text shows that these are $\Omega_{\pmb{c}} = 1$ and $\Omega_{\mathrm{cov}} = \Gamma$. If the economy is Harmenberg- but not Szeidl-invariant, no proof is offered that these growth factors will be constant.

Figures 1 and 2 plot the results of simulations of an economy that satisfies Harmenberg- but not Szeidl-invariance with a popualtion of 4 million agents over the last 1000 periods (of a 2000 period simulation). The first figure shows that $\log \pmb{c}$ increases apparently linearly. The second figure shows that $log(-\mathrm{cov}(c, \pmb{p}))$ also increases apparently linearly.
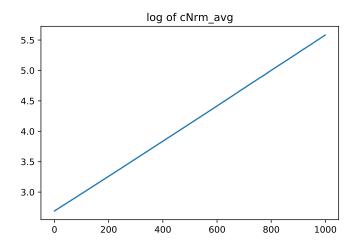
**Figure 1** **c** Appears to Grow Linearly



**Figure 2** $\mathrm{cov}(c, \boldsymbol{p})$ Appears to Grow Linearly