Online Appendices to "Monetary Policy, Inflation Target, and the Great Moderation: An Empirical Investigation"

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Appendix A. Model

The artificial economy is a variant of the generalized New Keynesian (GNK) model of Ascari and Sbordone (2014) and so the description of the model below draws heavily from their exposition. The model consists of a representative household, a representative final-good firm, a continuum of intermediate-good firms, and a central bank. The behavior of these agents are described as follows.

A.1 Households

The representative agent's preferences depend on consumption of final goods, C_t, and labor, N_t, and they are represented by the expected utility function

$$E_0 \sum_{t=0}^{\infty} \beta^t d_t u(C_t, N_t) \qquad 0 < \beta < 1,$$

which the agent acts to maximize. Here, E_0 represents the expectations operator. The term d_t stands for a shock to the discount factor, β, which follows the stationary autoregressive process

$$\log d_t = (1 - \rho_d) \log d + \rho_d \log d_{t-1} + \epsilon_{d,t},$$

where $\epsilon_{d,t}$ is a zero-mean, serially uncorrelated innovation that is normally distributed with standard deviation σ_d. The period utility is additively separable in consumption and labor and it takes on the functional form

$$u(C_t, N_t) = \ln\left(C_t - h\widetilde{C}_{t-1}\right) - d_n \frac{N_t^{1+\varphi}}{1+\varphi} \quad d_n > 0,\ \varphi \geq 0,\ 0 \leq h \leq 1.$$

Logarithmic utility is the only additive-separable form consistent with balanced growth. The term φ is the inverse of the Frisch labor supply elasticity, d_n governs the steady-state disutility of work, and h is the degree of habit persistence in consumption. Habit formation is "external," implying that the consumer is concerned with the level of her current consumption C_t relative to the aggregate consumption in the previous period $\widetilde{C}_{t-1}$ such that the consumer wants to "keep up with the Joneses." The period-by-period budget constraint is given by

$$P_t C_t + R_t^{-1} B_t = W_t N_t - T_t + D_t + B_{t-1},$$

where P_t is the price level, R_t is the gross nominal interest rate on bonds, B_t is one-period bond holdings, W_t is the nominal wage rate, T_t is lump-sum taxes, and D_t is the profit income. The representative consumer's problem is to maximize the expected discount intertemporal utility subject to the budget constraint. The first-order conditions with respect to consumption, labor supply, and bond holdings yield

$$\lambda_t = \frac{d_t}{C_t - hC_{t-1}},$$

$$\frac{W_t}{P_t} = \frac{d_n d_t N_t^{\varphi}}{\lambda_t},$$

$$1 = E_t \frac{\beta \lambda_{t+1}}{\lambda_t} \frac{R_t}{\pi_{t+1}},$$

where Ξ_t is the marginal utility of consumption, and $\pi_t = \frac{P_t}{P_{t-1}}$ is the gross inflation rate.

A.2 Firms

Firms come in two forms. Final-good firms produce output that can be consumed. This output is made from the range of differentiated goods that are supplied by intermediate-good firms who have market power.

A.2.1 Final-Good Firms

In each period t, a final good, Y_t, is produced by a perfectly competitive representative final-good firm, by combining a continuum of intermediate inputs, $Y_{i,t}$, $i \in [0,1]$, via the technology

$$Y_t = \left[\int_0^1 Y_{i,t}^{\frac{\varepsilon-1}{\varepsilon}} di \right]^{\frac{\varepsilon}{\varepsilon-1}},$$

where $\varepsilon > 1$ is the elasticity of substitution among intermediate inputs. The first-order condition for profit maximization yields the final-good firm's demand for intermediate good i,

$$Y_{i,t} = \left(\frac{P_{i,t}}{P_t} \right)^{-\varepsilon} Y_t.$$

The final-good market clearing condition is given by

$$Y_t = C_t.$$

A.2.2 Intermediate-Good Firms

Each intermediate-good firm i produces a differentiated good $Y_{i,t}$ under monopolistic competition using the production function

$$Y_{i,t} = A_t N_{i,t}.$$

Here A_t denotes the level of aggregate technology that is non-stationary and its growth rate ($g_t \equiv \frac{A_t}{A_{t-1}}$) follows an AR(1) process

$$\log g_t = (1 - \rho_g) \log g + \rho_g \log g_{t-1} + \epsilon_{g,t},$$

where g is the steady-state gross rate of technological progress, which is also equal to the steady-state balanced growth rate; $\epsilon_{g,t}$ is a zero-mean, serially uncorrelated innovation that is normally distributed with standard deviation σ_g.

Unlike Ascari and Sbordone (2014) I assume stochastic growth modeled as the technology level following a unit-root process. The labor demand and the real marginal cost of firm i is therefore given by

$$N_{i,t}^d = \frac{Y_{i,t}}{A_t},$$

and

$$MC_{i,t} = \frac{W_t/P_t}{A_t}.$$

Due to the assumption of constant returns to scale and perfectly competitive labor markets, the real marginal cost of firm i, $MC_{i,t}$, depends only on aggregate variables and thus is the same across firms, i.e., $MC_{i,t} = MC_t$.

A.2.3 Firms' Price Setting

The intermediate-goods producers face a constant probability, $0 < \xi < 1$, of being able to adjust prices to a new optimal one, $P^*_{q,t}(i)$, in order to maximize expected discounted profits

$$E_t \sum_{j=0}^{\infty} \xi^j \beta^j \frac{\lambda_{t+j}}{\lambda_0} \left[\frac{P^*_{i,t} \left(\pi^{\omega j}\right)^{1-\mu} \left(\pi^{\omega}_{t-1|t+j-1}\right)^{\mu}}{P_{q,t+j}} Y_{i,t+j} - \frac{W_{t+j}}{P_{t+j}} \frac{Y_{i,t+j}}{A_{t+j}} \right],$$

subject to the constraint

$$Y_{i,t+j} = \left[\frac{P^*_{i,t} \left(\pi^{\omega j}\right)^{1-\mu} \left(\pi^{\omega}_{t-1|t+j-1}\right)^{\mu}}{P_{t+j}} \right]^{-\varepsilon} Y_{t+j},$$

and

$$\begin{aligned} \pi_{t|t+j} &= \frac{P_{t+1}}{P_t} \times \frac{P_{t+2}}{P_{t+1}} \times ... \times \frac{P_{t+j}}{P_{t+j-1}} \qquad \text{for } j \geqslant 1 \\ &= 1 \qquad \text{for } j = 0, \end{aligned}$$

where π denotes the central bank's long-run inflation target and is equal to the level of trend inflation; $\Lambda_{t,t+j} = \beta^j \frac{\lambda_{t+j}}{\lambda_0}$ is the stochastic discount factor. This formulation is general, as $\omega \in [0, 1]$ allows for any degree of price indexation and $\mu \in [0, 1]$ allows for any degree of geometric combination of the two types of indexation usually employed in the literature: to steady-state inflation and to past inflation rates.

The first-order condition for the optimized relative price $p^*_{i,t}(=\frac{P^*_{i,t}}{P_t})$ is given by

$$p^*_{i,t}=\frac{\varepsilon}{(\varepsilon-1)}\frac{E_t\sum_{j=0}^{\infty}(\xi\beta)^j\lambda_{t+j}\frac{W_{t+j}}{P_{t+j}}\left[\frac{Y_{t+j}}{A_{t+j}}\right]\left[\frac{\left(\pi^{\omega j}\right)^{1-\mu}\left(\pi^{\omega}_{t-1|t+j-1}\right)^{\mu}}{\pi_{t|t+j}}\right]^{-\varepsilon}}{E_t\sum_{j=0}^{\infty}(\xi\beta)^j\lambda_{t+j}\left[\frac{(\pi^{\omega j})^{1-\mu}\left(\pi^{\omega}_{t-1|t+j-1}\right)^{\mu}}{\pi_{t|t+j}}\right]^{1-\varepsilon}Y_{t+j}}.$$

Moreover, the aggregate price level evolves according to

$$\begin{aligned}P_t &= \left[\int_0^1 P_{i,t}{}^{1-\varepsilon}di\right]^{\frac{1}{1-\varepsilon}} \Rightarrow\\ 1 &= \left[\xi\left(\pi^{1-\mu}\pi^{\mu}_{t-1}\right)^{\omega(1-\varepsilon)}\pi_t^{\varepsilon-1}+(1-\xi)\left(\frac{P^*_{i,t}}{P_t}\right)^{1-\varepsilon}\right]^{\frac{1}{1-\varepsilon}}\\ p^*_{i,t} &= \left[\frac{1-\xi\pi^{(1-\varepsilon)(1-\mu)\omega}\pi_{t-1}^{(1-\varepsilon)\mu\omega}\pi_t^{\varepsilon-1}}{1-\xi}\right]^{\frac{1}{1-\varepsilon}}.\end{aligned}$$

Lastly, define price dispersion $S_t\equiv\int_0^1(\frac{P_{i,t}}{P_t})^{-\varepsilon}di$. Under the Calvo price mechanism, the above expression can be written recursively as

$$S_t=(1-\xi)p^*_{i,t}{}^{-\varepsilon}+\xi\pi^{-\varepsilon\omega(1-\mu)}\pi_{t-1}^{-\varepsilon\omega\mu}\pi_t^{\varepsilon}S_{t-1}.$$

A.2.4 Recursive Formulation of the Optimal Price-Setting Equation

The joint dynamics of the optimal reset price and inflation can be compactly described by rewriting the first-order condition for the optimal price in a recursive formulation as follows:

$$p^*_{i,t}=\frac{\varepsilon}{(\varepsilon-1)}\frac{\Psi_t}{\phi_t},$$

where Ψ_t and ϕ_t are auxiliary variables defined as

$$\Psi_t=E_t\sum_{j=0}^{\infty}(\xi\beta)^j\pi^{\varepsilon}_{t|t+j}\frac{W_{t+j}}{P_{+j}}\left[\frac{Y_{t+j}}{A_{t+j}}\right]\lambda_{t+j}\pi^{-\varepsilon(1-\mu)\omega j}\pi^{-\varepsilon\mu\omega}_{t-1|t+j-1}$$

and

$$\phi_t = E_t \sum_{j=0}^{\infty} (\xi\beta)^j \pi_{t|t+j}^{\varepsilon-1} Y_{t+j} \lambda_{t+j} \pi^{(1-\mu)(1-\varepsilon)\omega j} \pi_{t-1|t+j-1}^{\mu\omega(1-\varepsilon)}.$$

We can rewrite the infinite sums that appear in the numerator and denominator of the above equation in recursive formulation as

$$\Psi_t = w_t \frac{Y_t}{A_t} \lambda_t + \xi\beta\pi^{-\varepsilon(1-\mu)\omega} \pi_t^{-\varepsilon\mu\omega} E_t \left[\pi_{t+1}^{\varepsilon} \Psi_{t+1} \right],$$

and

$$\phi_t = Y_t \lambda_t + \xi\beta\pi^{(1-\mu)(1-\varepsilon)\omega} \pi_t^{\mu\omega(1-\varepsilon)} E_t \left[\pi_{t+1}^{\varepsilon-1} \phi_{t+1} \right],$$

where in defining these two auxiliary variables, we used the definition $\lambda_t = \frac{d_t}{C_t - hC_{t-1}} = \frac{d_t}{Y_t - hY_{t-1}}$ and $w_t = \frac{W_t}{P_t}$.

A.3 Monetary Policy

Lastly, the central bank's policy is described by a Taylor rule:

$$\log R_t = \rho_r \log R_{t-1} + (1-\rho_r) \times \left[\begin{array}{c} \log r + \psi_\pi (\log \pi_t - \log \pi_t^*) + \psi_x \log x_t + \\ \psi_{\Delta y} \left(\log \frac{Y_t}{Y_{t-1}} - \log g \right) \end{array} \right] + \epsilon_{r,t} \quad 0 \leq \rho_r < 1,$$

where x_t is the output gap, and $\epsilon_{r,t}$ is an i.i.d. monetary policy shock; $r \geq 1$ is the steady-state gross policy rate. The parameters ψ_π, ψ_x, and $\psi_{\Delta y}$ govern the central bank's responses to the inflation gap, the output gap, and output growth, respectively, and $\rho_r \in [0,1]$ is the degree of policy rate smoothing. Here π_t^* denotes the time-varying inflation target that is assumed to follow an exogenous autoregressive process:

$$\log \pi_t^* = (1-\rho_{\pi^*}) \log \pi + \rho_{\pi^*} \log \pi_{t-1}^* + \epsilon_{\pi^*,t},$$

where $\epsilon_{\pi^*,t}$ is a zero-mean, serially uncorrelated innovation that is normally distributed with standard deviation σ_{π^*}. Under fixed inflation target ($\sigma_{\pi^*} = 0$), the policy rule boils down to

$$\log R_t = \rho_r \log R_{t-1} + (1 - \rho_r) \times \left[\begin{array}{c} \log r + \psi_\pi(\log \pi_t - \log \pi) + \psi_x \log x_t \\ + \psi_{\Delta y} \left(\log \frac{Y_t}{Y_{t-1}} - \log g \right) \end{array} \right] + \epsilon_{r,t},$$

where this time the central bank's inflation target is equal to steady-state inflation or trend inflation, π.

Finally, the output gap is defined as

$$x_t = \frac{Y_t}{Y_t^n},$$

where Y_t^n is the natural rate of output. By considering flexible prices, the law of motion for Y_t^n is given by

$$\left(\frac{Y_t^n}{A_t} \right)^{1+\varphi} = \frac{\varepsilon - 1}{\varepsilon d_n} + h \left(\frac{Y_t^n}{A_t} \right)^{\varphi} \frac{Y_{t-1}^n}{A_t}.$$

Appendix B. Additional Results

Table B.1. Posterior Distributions: Fixed Inflation Target (GNK model with homogenous labor)

	Posterior Mean [90% Interval]	
	1960:Q1–1979:Q2	**1984:Q1–2008:Q2**
ψ_π	1.03 [0.95,1.16]	3.15 [2.26,3.82]
ψ_x	0.13 [0.00,0.25]	0.12 [0.00,0.26]
$\psi_{\Delta y}$	0.10 [0.01,0.21]	0.69 [0.29,0.94]
ρ_r	0.38 [0.23,0.61]	0.78 [0.70,0.83]
π^*	1.25 [0.96,1.54]	0.67 [0.58,0.77]
r^*	1.54 [1.23,1.81]	1.44 [1.21,1.68]
g^*	0.52 [0.37,0.66]	0.51 [0.39,0.63]
h	0.47 [0.37,0.58]	0.43 [0.32,0.54]
ξ	0.43 [0.30,0.64]	0.62 [0.48,0.72]
ρ_d	0.81 [0.70,0.93]	0.91 [0.86,0.94]
ρ_g	0.19 [0.12,0.31]	0.23 [0.13,0.34]
σ_r	0.31 [0.25,0.36]	0.20 [0.16,0.25]
σ_d	0.42 [0.24,0.71]	1.65 [1.07,2.07]
σ_g	1.45 [1.13,1.70]	0.75 [0.60,0.89]
σ_ζ	0.61 [0.24,0.98]	0.58 [0.24,0.92]
$M_{r,\zeta}$	0.76 [–1.04,2.06]	0.05 [–1.64,1.65]
$M_{d,\zeta}$	–0.66 [–2.28,1.80]	–0.03 [–1.74,1.65]
$M_{g,\zeta}$	0.72 [–0.91,1.83]	0.04 [–1.75,1.65]
$\log p(X_T)$	–152.08	–32.58
$P\{\theta_S \in \Theta^D \vert X_T\}$	0.20	1.00

Note: Estimation results for the baseline GNK model with homogenous labor under fixed inflation target. $\log p(X_T)$ represents the log marginal data density and $P\{\theta_S \in \Theta^D|X_T\}$ denotes the posterior probability of determinacy.

Table B.2. Posterior Distributions: Alternative Calibration for Elasticity of Substitution ε (GNK model with homogenous labor)

	Posterior Mean [90% Interval]			
	1960:Q1–1979:Q2		1984:Q1–2008:Q2	
	Fixed Target	Time-Varying Target	Fixed Target	Time-Varying Target
ψ_π	0.95 [0.86,1.02]	2.29 [1.41,2.89]	3.17 [2.45,3.91]	3.99 [2.98,4.77]
ψ_x	0.16 [0.00,0.31]	0.12 [0.00,0.25]	0.11 [0.00,0.23]	0.14 [0.00,0.30]
$\psi_{\Delta y}$	0.09 [0.01,0.16]	0.15 [0.02,0.27]	0.71 [0.38,1.01]	0.35 [0.06,0.57]
ρ_r	0.46 [0.31,0.59]	0.40 [0.24,0.63]	0.78 [0.72,0.83]	0.70 [0.57,0.79]
π^*	1.21 [0.91,1.49]	1.20 [0.88,1.54]	0.67 [0.59,0.76]	0.70 [0.52,0.88]
r^*	1.49 [1.21,1.77]	1.51 [1.20,1.82]	1.44 [1.21,1.67]	1.46 [1.20,1.72]
g^*	0.53 [0.39,0.67]	0.54 [0.39,0.68]	0.52 [0.40,0.63]	0.51 [0.39,0.62]
h	0.45 [0.35,0.55]	0.39 [0.31,0.51]	0.43 [0.33,0.53]	0.40 [0.30,0.50]
ξ	0.41 [0.28,0.55]	0.40 [0.29,0.59]	0.63 [0.53,0.74]	0.49 [0.34,0.61]
ρ_d	0.72 [0.57,0.87]	0.79 [0.68,0.89]	0.91 [0.87,0.95]	0.92 [0.88,0.95]
ρ_g	0.18 [0.11,0.24]	0.17 [0.11,0.25]	0.22 [0.12,0.31]	0.17 [0.11,0.24]
$\rho_{\pi*}$	—	0.96 [0.93,0.99]	—	0.95 [0.91,0.98]
σ_r	0.28 [0.24,0.33]	0.40 [0.27,0.48]	0.20 [0.16,0.23]	0.21 [0.17,0.28]
σ_d	0.50 [0.27,0.72]	0.71 [0.40,0.95]	1.65 [1.11,2.13]	1.68 [1.14,2.09]
σ_g	1.40 [1.13,1.65]	1.29 [1.08,1.58]	0.75 [0.62,0.89]	0.71 [0.59,0.82]
$\sigma_{\pi*}$	—	0.09 [0.04,0.13]	—	0.04 [0.03,0.06]
σ_ζ	0.59 [0.26,0.91]	0.55 [0.23,0.86]	0.54 [0.25,0.85]	0.59 [0.24,0.96]
$M_{r,\zeta}$	1.52 [0.39,2.67]	0.00 [–1.64,1.69]	–0.03 [–1.69,1.53]	–0.08 [–1.82,1.55]
$M_{d,\zeta}$	–1.16 [–2.40,0.04]	0.01 [–1.67,1.69]	0.08 [–1.70,1.61]	0.03 [–1.60,1.71]

(*continued*)

Table B.2. (Continued)

	Posterior Mean [90% Interval]			
	1960:Q1–1979:Q2		1984:Q1–2008:Q2	
	Fixed Target	Time-Varying Target	Fixed Target	Time-Varying Target
$M_{g,\zeta}$	0.29 [–0.01,0.70]	–0.01 [–1.70,1.66]	0.02 [–1.52,1.68]	0.04 [–1.55,1.75]
$M_{\pi*,\zeta}$	—	0.02 [–1.67,1.62]	—	0.01 [–1.62,1.68]
$\log p(X_T)$	–149.46	–143.84	–32.03	–28.75
$P\{\theta_S \in \Theta^D \vert X_T\}$	0.00	1.00	1.00	1.00

Note: $\log p(X_T)$ represents the log marginal data density and $P\{\theta_S \in \Theta^D|X_T\}$ denotes the posterior probability of determinacy. Elasticity of substitution $\varepsilon = 5$.

Table B.3. Posterior Distributions: CPI as a Measure of Inflation (GNK model with homogenous labor)

	Posterior Mean [90% Interval]			
	1960:Q1–1979:Q2		1984:Q1–2008:Q2	
	Fixed Target	Time-Varying Target	Fixed Target	Time-Varying Target
ψ_π	1.02 [0.92,1.14]	1.99 [1.22,2.06]	2.44 [1.85,3.01]	2.57 [1.77,3.19]
ψ_x	0.11 [0.00,0.22]	0.13 [0.00,0.27]	0.12 [0.00,0.25]	0.12 [0.00,0.26]
$\psi_{\Delta y}$	0.17 [0.04,0.31]	0.22 [0.05,0.37]	0.62 [0.28,0.94]	0.56 [0.14,0.83]
ρ_r	0.46 [0.32,0.64]	0.52 [0.34,0.71]	0.75 [0.68,0.82]	0.75 [0.65,0.82]
π^*	1.27 [0.98,1.58]	1.25 [0.92,1.58]	0.85 [0.72,0.97]	0.86 [0.70,1.04]
r^*	1.50 [1.22,1.79]	1.49 [1.20,1.81]	1.44 [1.21,1.66]	1.44 [1.21,1.69]
g^*	0.49 [0.35,0.65]	0.54 [0.38,0.68]	0.51 [0.41,0.63]	0.51 [0.40,0.63]

(*continued*)

Table B.3. (Continued)

	Posterior Mean [90% Interval]			
	1960:Q1–1979:Q2		1984:Q1–2008:Q2	
	Fixed Target	Time-Varying Target	Fixed Target	Time-Varying Target
h	0.46 [0.35,0.56]	0.39 [0.31,0.51]	0.37 [0.28,0.47]	0.37 [0.28,0.49]
ξ	0.51 [0.38,0.70]	0.49 [0.34,0.68]	0.39 [0.27,0.50]	0.37 [0.25,0.48]
ρ_d	0.84 [0.73,0.94]	0.81 [0.67,0.92]	0.91 [0.88,0.94]	0.91 [0.87,0.94]
ρ_g	0.20 [0.10,0.34]	0.19 [0.11,0.31]	0.21 [0.13,0.30]	0.21 [0.12,0.29]
$\rho_{\pi*}$	—	0.95 [0.91,0.98]	—	0.95 [0.91,0.99]
σ_r	0.28 [0.23,0.34]	0.32 [0.23,0.40]	0.25 [0.19,0.30]	0.25 [0.19,0.33]
σ_d	0.47 [0.27,0.72]	0.69 [0.30,0.93]	1.41 [1.02,1.82]	1.40 [0.94,1.73]
σ_g	1.46 [1.14,1.77]	1.30 [1.05,1.60]	0.68 [0.57,0.78]	0.68 [0.58,0.81]
$\sigma_{\pi*}$	—	0.10 [0.05,0.15]	—	0.02 [0.00,0.05]
σ_ζ	0.71 [0.22,1.25]	0.56 [0.24,0.89]	0.57 [0.25,0.90]	0.58 [0.24,0.94]
$M_{r,\zeta}$	0.15 [–1.38,1.70]	0.00 [–1.74,1.62]	–0.03 [–1.58,1.73]	0.01 [–1.61,1.67]
$M_{d,\zeta}$	–0.35 [–2.23,1.94]	–0.06 [–1.83,1.55]	0.00 [–1.58,1.72]	0.06 [–1.66,1.67]
$M_{g,\zeta}$	0.82 [–1.05,1.96]	–0.06 [–1.72,1.58]	0.01 [–1.64,1.60]	0.04 [–1.66,1.70]
$M_{\pi*,\zeta}$	—	–0.01 [–1.61,1.66]	—	0.02 [–1.67,1.67]
$\log p(X_T)$	–152.32	–144.23	–89.98	–92.20
$P\{\theta_S \in \Theta^D \vert X_T\}$	0.12	0.95	1.00	1.00

Note: $\log p(X_T)$ represents the log marginal data density and $P\{\theta_S \in \Theta^D|X_T\}$ denotes the posterior probability of determinacy.

Table B.4. Posterior Distributions (GNK model with firm-specific labor)

	Posterior Mean [90% Interval]			
	1960:Q1–1979:Q2		1984:Q1–2008:Q2	
	Fixed Target	Time-Varying Target	Fixed Target	Time-Varying Target
ψ_π	1.14 [0.42,1.91]	2.71 [1.72,3.77]	2.73 [1.94,3.41]	3.25 [2.06,4.50]
ψ_x	0.30 [0.05,0.48]	0.23 [0.04,0.39]	0.09 [0.00,0.19]	0.15 [0.00,0.29]
$\psi_{\Delta y}$	0.16 [0.00,0.32]	0.19 [0.00,0.35]	0.89 [0.53,1.22]	0.61 [0.16,0.93]
ρ_r	0.82 [0.74,0.90]	0.78 [0.70,0.85]	0.82 [0.77,0.86]	0.81 [0.75,0.85]
π^*	1.35 [1.04,1.65]	1.30 [0.99,1.61]	0.70 [0.58,0.81]	0.92 [0.55,1.32]
r^*	1.53 [1.26,1.81]	1.58 [1.29,1.91]	1.42 [1.18,1.66]	1.59 [1.23,2.00]
g^*	0.43 [0.20,0.64]	0.52 [0.28,0.71]	0.46 [0.30,0.63]	0.45 [0.27,0.62]
h	0.52 [0.40,0.65]	0.56 [0.41,0.69]	0.55 [0.45,0.67]	0.60 [0.49,0.72]
ξ	0.53 [0.45,0.60]	0.53 [0.47,0.59]	0.46 [0.38,0.54]	0.50 [0.41,0.51]
ρ_d	0.44 [0.12,0.75]	0.44 [0.15,0.73]	0.91 [0.86,0.95]	0.89 [0.83,0.94]
ρ_g	0.81 [0.65,0.96]	0.62 [0.34,0.90]	0.23 [0.03,0.43]	0.31 [0.05,0.62]
$\rho_{\pi*}$	—	0.95 [0.92,0.98]	—	0.96 [0.94,0.99]
σ_r	0.23 [0.20,0.27]	0.24 [0.21,0.29]	0.18 [0.15,0.21]	0.17 [0.14,0.20]
σ_d	0.90 [0.26,1.70]	1.74 [0.34,2.70]	1.92 [1.34,2.51]	1.96 [1.37,2.48]
σ_g	0.58 [0.33,0.91]	0.59 [0.29,0.91]	1.02 [0.75,1.30]	0.95 [0.35,1.38]
$\sigma_{\pi*}$	—	0.11 [0.07,0.15]	—	0.06 [0.03,0.11]
σ_ζ	0.35 [0.28,0.44]	0.59 [0.26,0.94]	0.62 [0.26,1.00]	0.63 [0.28,1.00]
$M_{r,\zeta}$	–0.39 [–1.11,0.28]	–0.03 [–1.63,1.61]	–0.14 [–1.80,1.49]	0.01 [–1.63,1.56]

(*continued*)

Table B.4. (Continued)

	Posterior Mean [90% Interval]			
	1960:Q1–1979:Q2		1984:Q1–2008:Q2	
	Fixed Target	Time-Varying Target	Fixed Target	Time-Varying Target
$M_{d,\zeta}$	0.03 [–0.39,0.45]	0.04 [–1.53,1.69]	–0.01 [–1.68,1.61]	–0.02 [–1.66,1.55]
$M_{g,\zeta}$	0.28 [–0.20,0.69]	–0.05 [–1.71,1.50]	0.17 [–1.54,1.81]	–0.03 [–1.58,1.55]
$M_{\pi*,\zeta}$	—	0.03 [–1.65,1.64]	—	0.00 [–1.53,1.76]
$\log p(X_T)$	–145.31	–144.07	–31.62	–34.35
$P\{\theta_S \in \Theta^D \| X_T\}$	0.00	0.97	1.00	1.00

Note: $\log p(X_T)$ represents the log marginal data density and $P\{\theta_S \in \Theta^D|X_T\}$ denotes the posterior probability of determinacy.

Table B.5. Posterior Distributions (Lubik and Schorfheide 2004)

	Posterior Mean [90% Interval]			
	1960:Q1–1979:Q2		1982:Q4–1997:Q4	
	Fixed Target	Time-Varying Target	Fixed Target	Time-Varying Target
ψ_1	0.75 [0.59,0.92]	1.62 [1.12,2.25]	2.13 [1.13,2.90]	2.45 [1.39,3.21]
ψ_2	0.14 [0.01,0.30]	0.17 [0.02,0.34]	0.32 [0.04,0.58]	0.35 [0.05,0.65]
ρ_R	0.59 [0.45,0.78]	0.63 [0.51,0.75]	0.84 [0.78,0.89]	0.85 [0.79,0.90]
π^*	4.32 [2.13,6.23]	4.25 [2.20,5.95]	3.50 [2.79,4.11]	3.43 [1.99,4.94]
r^*	1.04 [0.53,1.62]	1.04 [0.58,1.58]	2.92 [2.06,3.72]	2.98 [2.06,3.80]
κ	0.75 [0.33,1.07]	0.71 [0.39,1.02]	0.60 [0.26,0.84]	0.59 [0.26,0.82]
τ^{-1}	1.54 [0.90,2.27]	1.98 [1.23,2.71]	1.89 [1.11,2.76]	1.98 [1.15,2.83]

(*continued*)

Table B.5. (Continued)

	Posterior Mean [90% Interval]			
	1960:Q1–1979:Q2		1982:Q4–1997:Q4	
	Fixed Target	Time-Varying Target	Fixed Target	Time-Varying Target
ρ_g	0.66 [0.53,0.80]	0.81 [0.74,0.87]	0.82 [0.74,0.88]	0.81 [0.72,0.87]
ρ_z	0.82 [0.70,0.90]	0.69 [0.60,0.77]	0.85 [0.75,0.93]	0.87 [0.77,0.94]
ρ_{gz}	0.09 [–0.42,0.70]	0.97 [0.93,0.99]	0.32 [–0.01,0.65]	0.31 [–0.03,0.63]
$\rho_{\pi *}$	—	0.93 [0.90,0.97]	—	0.94 [0.90,0.99]
σ_R	0.23 [0.19,0.27]	0.26 [0.20,0.31]	0.18 [0.14,0.22]	0.16 [0.13,0.20]
σ_g	0.26 [0.17,0.37]	0.24 [0.18,0.31]	0.18 [0.14,0.24]	0.18 [0.14,0.25]
σ_z	1.10 [0.90,1.35]	1.05 [0.87,1.24]	0.62 [0.50,0.78]	0.61 [0.49,0.76]
$\sigma_{\pi *}$	—	0.10 [0.06,0.15]	—	0.07 [0.02,0.13]
σ_ζ	0.21 [0.12,0.31]	0.26 [0.11,0.41]	0.24 [0.11,0.40]	0.25 [0.10,0.41]
$M_{R,\zeta}$	0.47 [–0.39,1.52]	–0.11 [–1.79,1.54]	0.04 [–1.65,1.67]	–0.02 [–1.66,1.66]
$M_{g,\zeta}$	–1.70 [–2.55,–0.74]	–0.09 [–1.91,1.55]	0.00 [–1.68,1.64]	–0.01 [–1.76,1.60]
$M_{z,\zeta}$	0.73 [0.39,1.05]	0.05 [–1.58,1.58]	0.02 [–1.63,1.69]	–0.02 [–1.68,1.59]
$M_{\pi *,\zeta}$	—	0.02 [–1.60,1.69]	—	0.03 [–1.66,1.65]
$\log p(X_T)$	–359.59	–357.92	–238.63	–237.38
$P\{\theta_S \in \Theta^D \vert X_T\}$	0.00	0.97	0.97	0.99

Note: $\log p(X_T)$ represents the log marginal data density and $P\{\theta_S \in \Theta^D|X_T\}$ denotes the posterior probability of determinacy of equilibrium. Notations for the parameters follow Lubik and Schorfheide (2004).

Table B.6. Posterior Distributions: Calibrate $\rho_{\pi*} = 0.995$ (GNK model with homogenous labor under time-varying target)

	Posterior Mean [90% Interval]	
	1960:Q1–1979:Q2	**1984:Q1–2008:Q2**
ψ_π	2.25 [1.46,2.86]	4.05 [2.95,4.76]
ψ_x	0.12 [0.00,0.24]	0.12 [0.00,0.26]
$\psi_{\Delta y}$	0.16 [0.03,0.30]	0.37 [0.60,0.59]
ρ_r	0.40 [0.22,0.66]	0.72 [0.59,0.80]
π^*	1.20 [0.84,1.57]	0.84 [0.48,1.20]
r^*	1.52 [1.18,1.87]	1.56 [1.23,1.90]
g^*	0.54 [0.39,0.69]	0.51 [0.40,0.63]
h	0.39 [0.30,0.51]	0.40 [0.31,0.52]
ξ	0.38 [0.24,0.56]	0.48 [0.34,0.61]
ρ_d	0.80 [0.67,0.88]	0.92 [0.88,0.95]
ρ_g	0.18 [0.11,0.26]	0.17 [0.11,0.25]
$\rho_{\pi*}$	0.995	0.995
σ_r	0.40 [0.26,0.50]	0.21 [0.17,0.28]
σ_d	0.78 [0.40,1.02]	1.73 [1.09,2.12]
σ_g	1.26 [1.04,1.59]	0.71 [0.59,0.84]
$\sigma_{\pi*}$	0.07 [0.03,0.11]	0.04 [0.02,0.05]
σ_ζ	0.59 [0.24,0.99]	0.55 [0.25,0.87]
$M_{r,\zeta}$	–0.03 [–1.67,1.71]	0.02 [–1.59,1.67]
$M_{d,\zeta}$	0.01 [–1.66,1.63]	0.00 [–1.59,1.70]
$M_{g,\zeta}$	–0.04 [–1.69,1.56]	–0.03 [–1.63,1.71]
$M_{\pi*,\zeta}$	0.02 [–1.58,1.67]	–0.01 [–1.72,1.61]
$\log p(X_T)$	–143.95	–28.08
$P\{\theta_S \in \Theta^D \| X_T\}$	1.00	1.00

Note: $\log p(X_T)$ represents the log marginal data density and $P\{\theta_S \in \Theta^D|X_T\}$ denotes the posterior probability of determinacy.

Table B.7. Posterior Distributions: Calibrate $\xi = 0.75$ (GNK model with homogenous labor)

	Posterior Mean [90% Interval]			
	1960:Q1–1979:Q2		**1984:Q1–2008:Q2**	
	Fixed Target	**Time-Varying Target**	**Fixed Target**	**Time-Varying Target**
ψ_π	1.15	2.27	2.50	3.08
	[0.90,1.41]	[1.44,2.82]	[1.85,2.93]	[2.17,3.96]
ψ_x	0.05	0.10	0.10	0.09
	[0.00,0.10]	[0.00,0.19]	[0.00,0.22]	[0.00,0.17]
$\psi_{\Delta y}$	0.35	0.21	0.95	0.60
	[0.13,0.52]	[0.02,0.36]	[0.63,1.21]	[0.18,1.05]
ρ_r	0.67	0.70	0.81	0.79
	[0.59,0.74]	[0.60,0.79]	[0.76,0.84]	[0.74,0.85]
π^*	1.17	1.21	0.68	1.19
	[0.95,1.40]	[0.97,1.39]	[0.57,0.80]	[0.66,1.59]
r^*	1.48	1.55	1.42	1.80
	[1.23,1.73]	[1.27,1.78]	[1.19,1.63]	[1.33,2.18]
g^*	0.53	0.61	0.51	0.50
	[0.37,0.68]	[0.43,0.73]	[0.38,0.64]	[0.39,0.61]
h	0.45	0.41	0.48	0.49
	[0.33,0.57]	[0.30,0.53]	[0.38,0.60]	[0.38,0.60]
ξ	0.75	0.75	0.75	0.75
ρ_d	0.88	0.72	0.90	0.88
	0.81,0.95]	[0.59,0.84]	0.85,0.94]	[0.84,0.93]
ρ_g	0.34	0.43	0.29	0.35
	[0.10,0.49]	[0.25,0.61]	[0.15,0.42]	[0.19,0.52]
$\rho_{\pi*}$	—	0.995	—	0.995
σ_r	0.27	0.24	0.18	0.16
	[0.23,0.32]	[0.21,0.30]	[0.15,0.21]	[0.13,0.19]
σ_d	0.91	1.63	1.59	1.77
	[0.45,1.30]	[0.60,2.15]	[1.12,1.93]	[1.26,2.21]
σ_g	1.39	0.63	0.87	0.64
	[1.01,1.77]	[0.35,1.10]	[0.70,1.05]	[0.31,1.00]
$\sigma_{\pi*}$	—	0.11	—	0.06
		[0.05,0.15]		[0.01,0.10]
σ_ζ	0.55	0.60	0.57	0.55
	[0.24,0.85]	[0.24,0.96]	[0.24,0.90]	[0.24,0.86]
$M_{r,\zeta}$	0.16	–0.05	0.02	–0.07
	[–1.63,1.66]	[–1.74,1.53]	[–1.66,1.59]	[–1.68,1.59]
$M_{d,\zeta}$	0.30	0.03	–0.04	–0.07
	[–1.32,2.06]	[–1.59,1.68]	[–1.66,1.62]	[–1.79,1.56]
$M_{g,\zeta}$	–0.53	0.01	0.02	0.00
	[–2.19,1.15]	[–1.68,1.61]	[–1.63,1.74]	[–1.75,1.65]
$M_{\pi*,\zeta}$	—	0.01	—	–0.02
		[–1.60,1.63]		[–1.72,1.57]
$\log p(X_T)$	–153.49	–145.87	–30.88	–31.16
$P\{\theta_S \in \Theta^D \| X_T\}$	0.19	0.95	0.99	1.00

Note: $\log p(X_T)$ represents the log marginal data density and $P\{\theta_S \in \Theta^D|X_T\}$ denotes the posterior probability of determinacy.

Table B.8. Posterior Distributions: Calibrate $\pi^* = 2$ (GNK model with firm-specific labor)

	Posterior Mean [90% Interval]	
	1960:Q1–1979:Q2	
	Fixed Target	Time-Varying Target
ψ_π	1.91 [0.99,2.74]	3.12 [2.05,4.17]
ψ_x	0.25 [0.07,0.42]	0.13 [0.01,0.23]
$\psi_{\Delta y}$	0.27 [0.01,0.46]	0.21 [0.01,0.38]
ρ_r	0.81 [0.73,0.89]	0.78 [0.71,0.85]
π^*	2.00	2.00
r^*	2.14 [1.91,2.34]	2.17 [2.00,2.35]
g^*	0.39 [0.13,0.61]	0.43 [0.21,0.67]
h	0.54 [0.42,0.66]	0.55 [0.43,0.68]
ξ	0.45 [0.40,0.50]	0.45 [0.41,0.49]
ρ_d	0.46 [0.14,0.76]	0.45 [0.13,0.77]
ρ_g	0.82 [0.69,0.93]	0.78 [0.62,0.92]
$\rho_{\pi *}$	—	0.995
σ_r	0.24 [0.21,0.28]	0.25 [0.22,0.29]
σ_d	0.84 [0.26,1.57]	1.13 [0.28,2.07]
σ_g	0.54 [0.34,0.77]	0.52 [0.32,0.77]
$\sigma_{\pi *}$	—	0.10 [0.05,0.15]
σ_ζ	0.40 [0.28,0.53]	0.61 [0.27,0.98]
$M_{r,\zeta}$	–0.28 [–1.10,0.64]	–0.01 [–1.67,1.55]
$M_{d,\zeta}$	–0.07 [–0.68,0.46]	0.00 [–1.71,1.63]
$M_{g,\zeta}$	0.23 [–0.48,1.04]	0.02 [–1.58,1.68]
$M_{\pi *,\zeta}$	—	–0.04 [–1.69,1.60]
$\log p(X_T)$	–149.29	–147.11
$P\{\theta_S \in \Theta^D \mid X_T\}$	0.00	1.00

Note: $\log p(X_T)$ represents the log marginal data density and $P\{\theta_S \in \Theta^D|X_T\}$ denotes the posterior probability of determinacy.

Table B.9. Posterior Distributions: Alternative Prior for π^* (GNK model with homogenous labor)

	Posterior Mean [90% Interval]			
	1960:Q1–1979:Q2		1984:Q1–2008:Q2	
	Fixed Target	Time-Varying Target	Fixed Target	Time-Varying Target
ψ_π	1.04 [0.96,1.17]	2.23 [1.47,2.83]	3.17 [2.32,3.86]	4.08 [3.12,5.01]
ψ_x	0.18 [0.00,0.32]	0.12 [0.00,0.24]	0.11 [0.00,0.24]	0.12 [0.00,0.25]
$\psi_{\Delta y}$	0.11 [0.01,0.22]	0.16 [0.03,0.30]	0.69 [0.30,0.95]	0.38 [0.07,0.65]
ρ_r	0.42 [0.26,0.60]	0.40 [0.23,0.63]	0.78 [0.70,0.83]	0.72 [0.63,0.80]
π^*	1.23 [0.94,1.52]	1.23 [0.88,1.62]	0.67 [0.58,0.76]	0.78 [0.43,1.10]
r^*	1.51 [1.22,1.79]	1.54 [1.21,1.90]	1.42 [1.21,1.65]	1.52 [1.20,1.84]
g^*	0.50 [0.35,0.65]	0.54 [0.38,0.68]	0.51 [0.40,0.64]	0.51 [0.41,0.62]
h	0.46 [0.36,0.57]	0.39 [0.30,0.50]	0.43 [0.33,0.54]	0.41 [0.31,0.50]
ξ	0.45 [0.33,0.65]	0.37 [0.25,0.54]	0.61 [0.48,0.72]	0.48 [0.36,0.61]
ρ_d	0.80 [0.69,0.92]	0.80 [0.69,0.89]	0.90 [0.86,0.94]	0.92 [0.88,0.95]
ρ_g	0.20 [0.12,0.30]	0.17 [0.11,0.25]	0.22 [0.13,0.33]	0.17 [0.11,0.24]
$\rho_{\pi*}$	—	0.995	—	0.995
σ_r	0.30 [0.25,0.36]	0.40 [0.27,0.48]	0.20 [0.17,0.25]	0.21 [0.16,0.26]
σ_d	0.45 [0.25,0.71]	0.75 [0.44,1.01]	1.56 [1.07,1.93]	1.70 [1.17,2.18]
σ_g	1.45 [1.11,1.71]	1.28 [1.06,1.54]	0.75 [0.60,0.87]	0.71 [0.60,0.83]
$\sigma_{\pi*}$	—	0.07 [0.03,0.10]	—	0.04 [0.02,0.05]
σ_ζ	0.75 [0.21,1.37]	0.58 [0.25,0.93]	0.58 [0.24,0.93]	0.55 [0.23,0.88]
$M_{r,\zeta}$	0.86 [–1.08,2.25]	0.03 [–1.64,1.65]	0.02 [–1.67,1.62]	–0.03 [–1.62,1.66]
$M_{d,\zeta}$	–0.44 [–2.14,1.84]	0.01 [–1.58,1.75]	–0.10 [–1.80,1.50]	–0.01 [–1.62,1.57]
$M_{g,\zeta}$	0.66 [–0.97,1.71]	0.02 [–1.63,1.71]	0.07 [–1.59,1.70]	0.02 [–1.68,1.60]
$M_{\pi*,\zeta}$	—	0.02 [–1.68,1.69]	—	0.03 [–1.52,1.70]
$\log p(X_T)$	–152.07	–144.26	–32.17	–28.52
$P\{\theta_S \in \Theta^D \| X_T\}$	0.19	1.00	1.00	1.00

Note: $\log p(X_T)$ represents the log marginal data density and $P\{\theta_S \in \Theta^D|X_T\}$ denotes the posterior probability of determinacy. Prior for π^* centered around the sample average for each sample.

Table B.10. Posterior Distributions: Alternative Prior for π^* (GNK model with firm-specific labor)

	Posterior Mean [90% Interval]			
	1960:Q1–1979:Q2		1984:Q1–2008:Q2	
	Fixed Target	Time-Varying Target	Fixed Target	Time-Varying Target
ψ_π	1.18	2.77	2.76	2.96
	[0.43,1.97]	[1.67,3.72]	[1.95,3.40]	[1.95,3.76]
ψ_x	0.34	0.18	0.09	0.14
	[0.06,0.52]	[0.02,0.29]	[0.00,0.19]	[0.01,0.28]
$\psi_{\Delta y}$	0.14	0.21	0.96	0.81
	[0.01,0.30]	[0.01,0.36]	[0.55,1.27]	[0.37,1.13]
ρ_r	0.81	0.78	0.82	0.81
	[0.72,0.90]	[0.69,0.85]	[0.78,0.86]	[0.76,0.86]
π^*	1.35	1.34	0.70	0.92
	[1.06,1.67]	[0.98,1.70]	[0.58,0.82]	[0.53,1.40]
r^*	1.54	1.60	1.43	1.58
	[1.28,1.84]	[1.25,1.93]	[1.18,1.69]	[1.21,1.99]
g^*	0.45	0.51	0.46	0.45
	[0.21,0.66]	[0.25,0.71]	[0.29,0.62]	[0.27,0.61]
h	0.51	0.56	0.54	0.57
	[0.40,0.64]	[0.43,0.69]	[0.44,0.67]	[0.46,0.69]
ξ	0.53	0.51	0.47	0.47
	[0.45,0.60]	[0.45,0.57]	[0.39,0.55]	[0.39,0.57]
ρ_d	0.44	0.45	0.91	0.90
	[0.12,0.74]	[0.13,0.75]	[0.86,0.95]	[0.84,0.94]
ρ_g	0.79	0.68	0.23	0.27
	[0.61,0.95]	[0.41,0.89]	[0.04,0.46]	[0.03,0.53]
$\rho_{\pi*}$	—	0.995	—	0.995
σ_r	0.23	0.25	0.18	0.17
	[0.20,0.27]	[0.21,0.30]	[0.16,0.21]	[0.15,0.21]
σ_d	1.03	1.51	1.99	1.87
	[0.26,1.78]	[0.30,2.36]	[1.27,2.61]	[1.25,2.35]
σ_g	0.57	0.58	1.02	0.98
	[0.34,0.90]	[0.30,1.00]	[0.72,1.29]	[0.57,1.34]
$\sigma_{\pi*}$	—	0.09	—	0.03
		[0.04,0.15]		[0.00,0.07]
σ_ζ	0.35	0.63	0.61	0.70
	[0.27,0.43]	[0.26,1.03]	[0.27,0.95]	[0.28,1.18]
$M_{r,\zeta}$	–0.29	0.01	–0.11	–0.07
	[–1.02,0.40]	[–1.61,1.70]	[–1.73,1.51]	[–1.75,1.53]
$M_{d,\zeta}$	0.01	0.10	0.07	0.01
	[–0.38,0.44]	[–1.64,1.69]	[–1.62,1.60]	[–1.59,1.63]
$M_{g,\zeta}$	0.25	0.05	–0.01	0.12
	[–0.33,0.70]	[–1.58,1.65]	[–1.56,1.61]	[–1.45,1.86]
$M_{\pi*,\zeta}$	—	0.09	—	0.02
		[–1.60,1.67]		[–1.61,1.64]
$\log p(X_T)$	–145.01	–144.51	–30.84	–31.68
$P\{\theta_S \in \Theta^D \| X_T\}$	0.00	0.98	1.00	1.00

Note: $\log p(X_T)$ represents the log marginal data density and $P\{\theta_S \in \Theta^D|X_T\}$ denotes the posterior probability of determinacy. Prior for π^* centered around the sample average for each sample.

B.1 Estimation Exercise with Simulated Data

First, I simulate data from the baseline GNK model with homogenous labor and a time-varying inflation target under determinacy. The parameter values are set to the posterior mean estimates for the pre-Volcker period when ρ_{π^*} is set to 0.995 (see Table B.6 for the parameter estimates). For ease of comparison, Table B.11 below reports the parameter values used for the simulation. In particular, I simulate 500 data points from the model, discard the first 400 observations, and use the last 100 observations as data for the estimation.[1] Table B.11 reports the posterior means and both the 68 percent and 90 percent highest posterior density (HPD) intervals based on 10,000 particles from the final stage of the sequential Monte Carlo algorithm.[2] First, the estimated posterior distribution lies entirely in the determinacy region of the parameter space, i.e., the posterior probability of determinacy is 100 percent. Second, the posterior mean for the structural parameters and the shocks are quite close to their true values. In fact, both the wider 90 percent HPD intervals and the tighter 68 percent intervals contain the true values for the estimated parameters.[3] Admittedly, in order to properly take into account simulation uncertainty, one would ideally conduct a Monte Carlo exercise by repeatedly simulating the data and estimating the model with the simulated data for an arbitrarily large number of times and then compare the average of the parameter estimates across the Monte Carlo exercises with the true parameter values. Nevertheless, the fact that the estimated parameter values are close to their true values in our single simulation/estimation exercise suggests that the structural parameters and the shocks in the baseline model are relatively well identified.

[1]I ensure that the sample average of the simulated data is comparable with the sample average of the actual data for the pre-Volcker period.

[2]In the estimations, I calibrate $\rho_{\pi^*} = 0.995$.

[3]The posterior distributions of the standard deviation of the sunspot shock σ_ζ and the indeterminacy coefficients M are simply equivalent to their prior distributions given that the posterior lies entirely in the determinacy region of the parameter space.

Table B.11. Posterior Distributions: Exercise with Simulated Data (baseline GNK model with homogenous labor)

	Parameter Value	Posterior Mean	[68% Interval]	[90% Interval]
ψ_π	2.25	2.10	[1.61,2.39]	[1.44,2.73]
ψ_x	0.12	0.13	[0.01,0.16]	[0.00,0.28]
$\psi_{\Delta y}$	0.16	0.17	[0.10,0.22]	[0.06,0.27]
ρ_r	0.40	0.35	[0.26,0.46]	[0.19,0.51]
π^*	1.20	1.18	[0.96,1.39]	[0.83,1.55]
r^*	1.52	1.55	[1.35,1.77]	[1.20,1.90]
g^*	0.54	0.51	[0.42,0.60	[0.37,0.65]
h	0.39	0.44	[0.40,0.49]	[0.36,0.52]
ξ	0.38	0.38	[0.31,0.44]	[0.28,0.49]
ρ_d	0.80	0.74	[0.68,0.81]	[0.64,0.85]
ρ_g	0.17	0.19	[0.16,0.22]	[0.14,0.24]
$\rho_{\pi *}$	0.995	0.995	0.995	0.995
σ_r	0.40	0.41	[0.33,0.44]	[0.31,0.50]
σ_d	0.78	0.68	[0.52,0.78]	[0.44,0.90]
σ_g	1.26	1.41	[1.26,1.53]	[1.21,1.62]
$\sigma_{\pi *}$	0.07	0.06	[0.04,0.08]	[0.03,0.10]
σ_ζ	—	0.57	[0.29,0.64]	[0.24,0.91]
$M_{r,\zeta}$	—	–0.02	[–0.99,1.01]	[–1.76,1.56]
$M_{d,\zeta}$	—	0.02	[–0.92,1.02]	[–1.52,1.75]
$M_{g,\zeta}$	—	–0.02	[–0.91,1.09]	[–1.65,1.65]
$M_{\pi *,\zeta}$	—	0.03	[–0.88,1.12]	[–1.73,1.58]

Note: $\log p(X_T)$ represents the log marginal data density and $P\{\theta_S \in \Theta^D|X_T\}$ denotes the posterior probability of determinacy.

References

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