ADDITIONAL APPENDIX FOR: OPERATIONAL FISCAL AND MONETARY POLICY WITH STAGGERED WAGE AND PRICE DYNAMICS

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1. Price and wage-setting equilibrium

Definition 1. *The price-dispersion term s_t can be arranged as:*

$$\begin{aligned} s_t &:= \int_0^1 \left[\frac{P_{\iota t}}{P_t}\right]^{-\theta} d\iota \\ &= (1-\phi_p)\left[\frac{\tilde{P}_t}{P_t}\right]^{-\theta} + (1-\phi_p)\phi_p\left[\frac{\bar{\pi}\tilde{P}_{t-1}}{P_t}\right]^{-\theta} + (1-\phi_p)\phi_p^2\left[\frac{\bar{\pi}^2\tilde{P}_{t-2}}{P_t}\right]^{-\theta} + \ldots \\ &= (1-\phi_p)\sum_{j=0}^{+\infty}\phi_p^j\left[\frac{\bar{\pi}^j\tilde{P}_{t-j}}{P_t}\right]^{-\theta} \\ &= (1-\phi_p)\tilde{p}_t^{-\theta} + \phi_p\left[\frac{\pi_t}{\bar{\pi}}\right]^{\theta} s_{t-1} \end{aligned}$$

Proof. It follows from the assumptions that only the histories of no price re-optimization matter for price-setting decisions, and that re-negotiations set the same new prices. The fourth line presents a recursive representation for the infinite summation of the third line. □

Definition 2. *Total labor-supply schedule can be written as:*

$$\begin{aligned} \ell_t &= \ell_t^d \int_0^1 \left[\frac{\tilde{w}_{jt}}{w_t}\right]^{-\vartheta} dj \\ &= (1-\phi_w)\left[\frac{\tilde{W}_t}{W_t}\right]^{-\vartheta}\ell_t^d + (1-\phi_w)\phi_w\left[\frac{\bar{\pi}\tilde{W}_{t-1}}{W_t}\right]^{-\vartheta}\ell_t^d + (1-\phi_w)\phi_w^2\left[\frac{\bar{\pi}^2\tilde{W}_{t-2}}{W_t}\right]^{-\vartheta}\ell_t^d + \ldots \\ &= (1-\phi_w)\sum_{j=0}^{+\infty}\phi_w^j\left[\frac{\bar{\pi}^j\tilde{W}_{t-j}}{W_t}\right]^{-\vartheta}\ell_t^d \\ &= \tilde{s}_t\ell_t^d \end{aligned}$$

with the wage-dispersion term $\tilde{s}_t$:

$$\begin{aligned} \tilde{s}_t &:= (1-\phi_w)\sum_{j=0}^{+\infty}\phi_w^j\left[\frac{\bar{\pi}^j\tilde{W}_{t-j}}{W_t}\right]^{-\vartheta} \\ &= (1-\phi_w)\left[\frac{\tilde{w}_t}{w_t}\right]^{-\vartheta} + \phi_w\left[\frac{\bar{\pi}w_{t-1}}{\pi_t w_t}\right]^{-\vartheta}\tilde{s}_{t-1} \end{aligned}$$

Proof. It follows from the assumptions that only the histories of no wage re-optimization matter for wage-setting decisions, and that wage re-negotations set the same new wages. □

Proposition 1. *The first-order condition from the price-setting problem with full indexation to steady-state inflation can be re-written in a recursive fashion:*

$$x_t^1 = \frac{\theta-1}{\theta} x_t^2$$

with the following terms:

$$\begin{aligned}
x_t^1 &:= \mathbb{E}_t \sum_{n=0}^{\infty} \Xi_{t+n|t} \phi_p^n \mathrm{mc}_{t+n} \left(\frac{\bar{\pi}^n \tilde{P}_t}{P_{t+n}} \right)^{-\theta-1} y_{t+n} \\
&= \mathrm{mc}_t \left[\tilde{p}_t\right]^{-\theta-1} y_t + \phi_p \mathbb{E}_t \Xi_{t+1|t} \left[\frac{\bar{\pi}\tilde{p}_t}{\pi_{t+1}\tilde{p}_{t+1}} \right]^{-\theta-1} x_{t+1}^1 \\
x_t^2 &:= \mathbb{E}_t \sum_{n=0}^{\infty} \Xi_{t+n|t} \phi_p^n \left(\frac{\bar{\pi}^n \tilde{P}_t}{P_{t+n}} \right)^{-\theta} y_{t+n} \\
&= \left[\tilde{p}\right]_t^{-\theta} y_t + \phi_p \mathbb{E}_t \Xi_{t+1|t} \left[\frac{\bar{\pi}\tilde{p}_t}{\pi_{t+1}\tilde{p}_{t+1}} \right]^{-\theta} x_{t+1}^2 \\
\tilde{p}_t &:= \frac{\tilde{P}_t}{P_t}
\end{aligned}$$

Proposition 2. *The first-order condition with respect to wage with full indexation to steady-state inflation is written in recursive form:*

$$x_t^3 = \frac{\vartheta-1}{\vartheta} x_t^4$$

with the following terms:

$$\begin{aligned}
x_t^3 &:= \mathbb{E}_t \sum_{m=0}^{\infty} (\beta\phi_w)^m \gamma \left(\frac{\bar{\pi}^m \tilde{W}_t}{W_{t+m}} \right)^{-\vartheta} \ell_{t+m}^d \\
&= \gamma \mathsf{w}_t^{-\vartheta} \ell_t^d + \beta\phi_w \mathbb{E}_t \left[\frac{\bar{\pi}\mathsf{w}_t}{\mathsf{w}_{t+1}} \frac{W_t}{W_{t+1}} \right]^{-\vartheta} x_{t+1}^3 \\
&= \gamma \mathsf{w}_t^{-\vartheta} \ell_t^d + \beta\phi_w \mathbb{E}_t \left[\frac{\bar{\pi}\mathsf{w}_t}{\mathsf{w}_{t+1}} \frac{w_t}{\pi_{t+1} w_{t+1}} \right]^{-\vartheta} x_{t+1}^3 \\
x_t^4 &:= \mathbb{E}_t \sum_{m=0}^{\infty} (\beta\phi_w)^m \varsigma_{t+m} (1-\tau_{t+m}) \frac{\bar{\pi}^m \tilde{W}_t}{P_{t+m}} \left(\frac{\bar{\pi}^m \tilde{W}_t}{W_{t+m}} \right)^{-\vartheta} \ell_{t+m}^d \\
&= \varsigma_t (1-\tau_t) w_t (\mathsf{w}_t)^{1-\vartheta} \ell_t^d + \beta\phi_w \mathbb{E}_t \left[\frac{\bar{\pi}\tilde{w}_t}{\pi_{t+1}\tilde{w}_{t+1}} \right]^{1-\vartheta} x_{t+1}^4 \\
\mathsf{w}_t &:= \frac{\tilde{w}_t}{w_t}
\end{aligned}$$

2. Equilibrium prices and wages under indexation to past inflation

Proposition 3. *In the model with indexation to past inflation, the following equations for the evolution of $\tilde{p}_t$, s_t, and for the first-order condition with respect to idiosyncratic prices substitute those from the previous sections:*

(1) $$1 = \phi_p \left[\frac{\pi_{t-1}}{\pi_t} \right]^{1-\theta} + (1-\phi_p) \left[\tilde{p}_t\right]^{1-\theta}$$

(2) $$s_t = (1-\phi_p)[\tilde{p}_t]^{-\theta} + \phi_p \left[\frac{\pi_{t-1}}{\pi_t} \right]^{-\theta} s_{t-1}$$

(3) $$x_t^1 = \frac{\theta - 1}{\theta} x_t^2$$

(4) $$x_t^1 = \mathrm{mc}_t \left[\tilde{p}_t\right]^{-\theta-1} y_t + \phi_p \mathbb{E}_t \Xi_{t+1|t} \left[\frac{\pi_t \tilde{p}_t}{\pi_{t+1}\tilde{p}_{t+1}}\right]^{-\theta-1} x_{t+1}^1$$

(5) $$x_t^2 = \left[\tilde{p}_t\right]^{-\theta} y_t + \phi_p \mathbb{E}_t \Xi_{t+1|t} \left[\frac{\pi_t \tilde{p}_t}{\pi_{t+1}\tilde{p}_{t+1}}\right]^{-\theta} x_{t+1}^2$$

The laws of motion for real wages change in the following way:

$$\begin{aligned}
w_t^{1-\vartheta} &= \phi_w \left[\frac{\pi_{t-1} w_{t-1}}{\pi_t}\right]^{1-\vartheta} + (1-\phi_w)\tilde{w}_t^{1-\vartheta} \\
\tilde{s}_t &= (1-\phi_w)\left[\frac{\tilde{w}_t}{w_t}\right]^{-\vartheta} + \phi_w \left[\frac{\pi_{t-1} w_{t-1}}{\pi_t w_t}\right]^{-\vartheta} \tilde{s}_{t-1} \\
x_t^3 &= \frac{\vartheta - 1}{\vartheta} x_t^4 \\
x_t^3 &= \gamma \left[\frac{\tilde{w}_t}{w_t}\right]^{-\vartheta} \ell_t^d + \beta\phi_w \mathbb{E}_t \left[\frac{\pi_t \tilde{w}_t}{\pi_{t+1}\tilde{w}_{t+1}}\right]^{-\vartheta} x_{t+1}^3 \\
x_t^4 &= \varsigma_t (1-\tau_t)\tilde{w}_t \left[\frac{\tilde{w}_t}{w_t}\right]^{-\vartheta} \ell_t^d + \beta\phi_w \mathbb{E}_t \left[\frac{\pi_t \tilde{w}_t}{\pi_{t+1}\tilde{w}_{t+1}}\right]^{1-\vartheta} x_{t+1}^4
\end{aligned}$$

Proof. These recursive expressions are obtained by following the same steps outlined in the case of full indexation to steady-state inflation and wages. □

3. The system of optimality conditions

The equations coded into the solution algorithm are the following:

(6) $$1/c_t = \varsigma_t (1+\tau_t)$$

(7) $$\mathbb{E}_t \frac{\varsigma_{t+1}}{\varsigma_t} \frac{R_t}{\pi_{t+1}} = \frac{1}{\beta}$$

(8) $$\mathbb{E}_t \frac{\varsigma_{t+1}}{\varsigma_t} \left[(1-\tau_{t+1}) r_{t+1} + \tau_{t+1}\delta\right] + (1-\delta)\mathbb{E}_t \frac{\varsigma_{t+1}}{\varsigma_t} = \frac{1}{\beta}$$

(9) $$x_t^1 = \mathrm{mc}_t \left[\tilde{p}_t\right]^{-\theta-1} y_t + \phi_p \mathbb{E}_t \beta \frac{\varsigma_{t+1}}{\varsigma_t} \left[\frac{\bar{\pi}\tilde{p}_t}{\pi_{t+1}\tilde{p}_{t+1}}\right]^{-\theta-1} x_{t+1}^1$$

(10) $$x_t^2 = \left[\tilde{p}_t\right]^{-\theta} y_t + \phi_p \mathbb{E}_t \beta \frac{\varsigma_{t+1}}{\varsigma_t} \left[\frac{\bar{\pi}\tilde{p}_t}{\pi_{t+1}\tilde{p}_{t+1}}\right]^{-\theta} x_{t+1}^2$$

(11) $$x_t^1 = \frac{\theta - 1}{\theta} x_t^2$$

(12) $$1 = \phi_p \left(\frac{\bar{\pi}}{\pi_t}\right)^{1-\theta} + (1-\phi_p)\left(\tilde{p}_t\right)^{1-\theta}$$

(13) $$(1-\alpha)\mathrm{mc}_t \frac{y_t}{\ell_t^d} = w_t$$

(14) $$\alpha \frac{y_t}{k_t} \mathrm{mc}_t = r_t$$

(15) $$x_t^3 = \gamma \left[\frac{\tilde{w}_t}{w_t}\right]^{-\vartheta} \ell_t^d + \beta\phi_w \mathbb{E}_t \left[\frac{\bar{\pi}\tilde{w}_t/w_t}{\tilde{w}_{t+1}/w_{t+1}} \frac{w_t}{\pi_{t+1} w_{t+1}}\right]^{-\vartheta} x_{t+1}^3$$

(16) $$x_t^4 = \varsigma_t (1-\tau_t) w_t \left[\frac{\tilde{w}_t}{w_t}\right]^{1-\vartheta} \ell_t^d + \beta\phi_w \mathbb{E}_t \left[\frac{\bar{\pi}\tilde{w}_t}{\pi_{t+1}\tilde{w}_{t+1}}\right]^{1-\vartheta} x_{t+1}^4$$

(17) $$x_t^3 = \frac{\vartheta - 1}{\vartheta} x_t^4$$

(18) $$w_t^{1-\vartheta} = (1-\phi_w)\tilde{w}_t^{1-\vartheta} + \phi_w \left[\frac{\bar{\pi} w_{t-1}}{\pi_t}\right]^{1-\vartheta}$$

(19) $$y_t = \frac{z_t}{s_t} k_t^{\alpha} \left(\ell_t^d\right)^{1-\alpha}$$

(20) $$\ell_t = \tilde{s}_t \ell_t^d$$

(21) $$k_{t+1} = i_t + (1-\delta)k_t$$

(22) $$y_t = c_t + i_t + g_t$$

(23) $$s_t = (1-\phi_p)\tilde{p}_t^{-\theta} + \phi_p \left[\frac{\pi_t}{\bar{\pi}}\right]^{\theta} s_{t-1}$$

(24) $$\tilde{s}_t = (1-\phi_w)\left[\frac{\tilde{w}_t}{w_t}\right]^{-\vartheta} + \phi_w \left[\frac{\bar{\pi} w_{t-1}}{\pi_t w_t}\right]^{-\vartheta} \tilde{s}_{t-1}$$

(25) $$d_t + \tau_t c_t + \tau_t (r_t - \delta) k_t + \tau_t w_t \ell_t = R_{t-1} d_{t-1}/\pi_t + g_t$$

(26) $$\ln[z_{t+1}] = \rho_z \ln[z_t] + \sigma_z \epsilon_{t+1}^z$$

(27) $$\ln[g_{t+1}^c] = \rho_g \ln[g_t^c] + (1-\rho_g)\ln[\bar{g}^c] + \sigma_g \epsilon_{t+1}^g$$

The system is closed with the rules for fiscal and monetary policy.

4. The deterministic steady state

In the calculation of the deterministic steady states, I take the following as given: δ, α, θ, ϑ, ϕ_w, ϕ_π, $\bar{\pi}$, $\bar{\ell}$, $\bar{i}/\bar{y}$, τ_t, $\bar{g}/\bar{y}$, $\bar{d}/\bar{y}$. Merging 9 and 10 into 11:

(28) $$\bar{\text{mc}} = \frac{\theta - 1}{\theta}$$

From 12, I get:

(29) $$\tilde{p} = 1$$

From 23:

(30) $$\bar{s} = 1$$

From 14:

(31) $$\bar{r} = \alpha \frac{\bar{y}}{\bar{k}} \frac{\theta - 1}{\theta}$$

From 8:

(32) $$\beta = 1/\left[(1-\tau_t)\bar{r} + \delta\tau_t + (1-\delta)\right]$$

Equation 7 gives:

(33) $$\bar{R} = \frac{\bar{\pi}}{\beta}$$

From 21:

(34) $$\frac{\bar{i}}{\bar{y}} = \delta \frac{\bar{k}}{\bar{y}}$$

From 18:

(35) $$\frac{\bar{\tilde{w}}}{\bar{w}} = 1$$

From 24:

(36) $$\bar{\tilde{s}} = 1$$

Using $\bar{\ell}^d = \bar{\ell}$, 19 yields:

$$\bar{y} = \left[\frac{\bar{z}}{\bar{s}} \left(\frac{\bar{k}}{\bar{y}} \right)^{\alpha} \left(\bar{\ell}^d \right)^{1-\alpha} \right]^{1/(1-\alpha)} \tag{37}$$

From 13:

$$\bar{w} = (1-\alpha) \frac{\bar{y}}{\bar{\ell}^d} \bar{\mathrm{mc}} \tag{38}$$

From 22:

$$\frac{\bar{c}}{\bar{y}} = 1 - \frac{\bar{i}}{\bar{y}} - \frac{\bar{g}}{\bar{y}} \tag{39}$$

From 6:

$$\bar{\varsigma} = \frac{1}{(1+\tau_t)\bar{c}} \tag{40}$$

5. The state-space representation of the model

The first-order conditions of the model economy can be arranged in the following way:

$$\mathbb{E}_t \mathcal{H} \left(e_{t+1}, e_t, x_{t+1}, x_t | \sigma \right) = 0 \tag{41}$$

where e is a vector of co-state variables. The state variables are collected in x:

$$x_t := \begin{bmatrix} x_{1,t} \\ x_{2,t} \end{bmatrix} \tag{42}$$

with vectors of endogenous state variables $x_{1,t}$, and exogenous state variables $x_{2,t}$:

$$x_{2,t+1} = \Lambda_1 x_{2,t} + \Lambda_2 \sigma \epsilon_{t+1} \tag{43}$$

with matrices Λ_1 and Λ_2. The scalar $\sigma \geq 0$ is known. The approximate solution is

$$de_t = D(dx_t) + \frac{1}{2} G(dx_t \otimes dx_t) + \frac{1}{2} H \sigma^2 \tag{44}$$

$$dx_{t+1} = D^*(dx_t) + \frac{1}{2} G^*(dx_t \otimes dx_t) + \frac{1}{2} H^* \sigma^2 + \Lambda_3 \sigma \epsilon_{t+1} \tag{45}$$

where de_t and dx_t denote deviations from the deterministic steady state.

With steady-state indexation, I define the following:

$$x_{1,t} = [k_t \;\; s_t \;\; \tilde{s}_t \;\; d_{t-1} \;\; R_{t-1} \;\; w_{t-1}]' \tag{46}$$

$$x_{2,t} = [z_t \;\; g_t]' \tag{47}$$

$$e_t = \left[y_t \;\; R_t \;\; d_t \;\; \mathrm{mc}_t \;\; c_t \;\; \pi_t \;\; \ell_t \;\; r_t \;\; w_t \;\; \varsigma_t \;\; x_t^2 \;\; x_t^4 \;\; \tau_t \right]' \tag{48}$$

$$\Lambda_1 = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix} \tag{49}$$

$$\Lambda_3 = \begin{bmatrix} 0 & 0 & 0 & 0 & 0 & 0 & \sigma_z & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & \sigma_g \end{bmatrix}' \tag{50}$$

6. Additional computational issues

The maximization of the conditional welfare function is obtained through the Matlab implementation of a function maximizer called simulated annealing. Simulated annealing is a generalization of a Monte Carlo method, originally used in the study of heating and cooling materials (see Kirkpatrick, Jr, and Vecchi, 1983). The algorithm has been adapted as a global optimization method for econometric applications by Goffe, Ferriers, and Rogers (1994). The main advantage of simulated annealing consists in the capacity of distinguishing between different local optima.

References

Goffe, W., M. Ferriers, and P. Rogers (1994): "Global Optimization of Statistical Functions with Simulated Annealing," *Journal of Econometrics*, 60(1–2), 65–100.

Kirkpatrick, S., C. D. G. Jr, and M. P. Vecchi (1983): "Optimization by Simulated Annealing," *Science*, 220, 671–680.

Table 1: Descriptive statistics with steady-state indexation

	y_t	π_t	R_t	c_t	ℓ_t	b_t	τ_t
	Standard deviation (in percent)						
Mix 1	0.568	0.4194	0.4018	0.358	0.98	4.049	1.0094
Mix 2	2.414	1.3577	2.2638	4.9102	4.9695	4.8842	3.0864
Mix 3	0.0372	0.2188	0.2014	0.1972	0.1903	5.6498	0.7987
Mix 4	1.0095	0.1049	0.0094	0.1406	1.7249	5.634	0.0564
Mix 5	0.831	0.1077	0.0341	0.1432	1.4228	5.4294	0.0542
	Deviation from det. steady state						
Mix 1	0.0051	0.0429	0.0429	0.0074	0.0042	-0.0503	-0.0069
Mix 2	-0.0298	0.0141	0.0141	-0.0336	-0.0234	-0.0201	0.0156
Mix 3	-0.0001	0.0012	0.0012	-0.0002	0	-0.0009	0.0001
Mix 4	0	0	0	0.0001	0	-0.0284	-0.0003
Mix 5	0	0	0	0.0001	0	-0.024	-0.0002
	Autocorrelation						
Mix 1	0.1115	0.056	0.0514	0.0405	0.3323	0.5639	0.2796
Mix 2	0.9983	0.3898	0.9255	0.9119	0.9294	0.9296	0.9458
Mix 3	0.0004	0.0148	0.0127	0.0097	0.0114	0.9362	0.1545
Mix 4	0.0027	-0.0002	0	0.007	0.0128	0.5453	0.0011
Mix 5	0.0368	0.0008	0.0004	0.0075	0.0897	0.9517	0.0013

Legend: Mix 1: fully-optimized rules. Mix 2: no wage-inflation target. Mix 3: No price-inflation target. Mix 4: Only price-inflation and government liability targets. Mix 5: Only wage-inflation and government liability targets.
Note: The statistics reported here are generated from the model economy with the optimized policy rules of Table II.

Table 2: Descriptive statistics with only wage rigidity

	y_t	π_t	R_t	c_t	ℓ_t	b_t	τ_t
	Standard deviation (in percent)						
Mix 1	0.3628	3.9050	0.3959	0.2790	0.6086	3.3838	0.54504
Mix 2	0.5641	2.7568	0.7116	0.5362	0.7565	2.4433	0.4697
Mix 3	0.9872	2.5528	1.2521	0.1817	1.6774	7.9081	0.0994
Mix 4	0.7547	2.2064	0.9946	0.1847	1.2833	7.0312	0.2361
Mix 5	0.4286	2.1393	0.0017	0.6169	0.2581	1.5245	0.5036
	Deviation from det. steady state						
Mix 1	0.0006	0.052	0.052	0.0009	-0.0004	-0.0517	-0.0033
Mix 2	0	0	0	-0.0001	0	-0.0002	0
Mix 3	0	0	0	0.0001	0	-0.0276	-0.0003
Mix 4	-0.0001	0	0	-0.0001	-0.0001	-0.0086	0
Mix 5	0	0	0	0	0	-0.0001	0
	Autocorrelation						
Mix 1	0.7485	0.7668	0.2085	0.9424	0.9978	0.9233	0.9935
Mix 2	0.0067	0.1871	0.1659	0.0939	0.1404	0.9038	0.0378
Mix 3	0.124	0.6381	0.2668	0.0181	0.3946	0.9421	0.0133
Mix 4	0.0718	0.4074	0.2769	0.0115	0.2248	0.9098	0
Mix 5	0.0612	0	0	0.1272	0.0203	0.7923	0.0864

Legend: Mix 1: fully-optimized rules. Mix 2: no wage-inflation target. Mix 3: No price-inflation target. Mix 4: Only price-inflation and government liability targets. Mix 5: Only wage-inflation and government liability targets.
Note: The statistics reported here are generated from the model economy with the optimized policy rules of Table III.

Table 3: Descriptive statistics with indexation to past inflation

	y_t	π_t	R_t	c_t	ℓ_t	b_t	τ_t
	Standard deviation (in percent)						
Mix 1	3.7807	2.1032	2.8382	2.6103	7.4132	3.693	5.8974
Mix 2	3.2672	0.8036	1.8637	4.4184	7.9676	6.7015	6.7325
Mix 3	0.3629	0.3858	0.3862	0.5279	0.1299	1.9239	0.4233
Mix 4	1.3012	0.3483	0.0935	0.1508	2.2165	5.8938	0.0585
Mix 5	2.7523	0.2162	0.219	0.1711	4.6767	5.4444	0.0111
	Deviation from det. steady state						
Mix 1	-0.0495	-0.0269	-0.0269	-0.0075	-0.0473	0.0305	0.0493
Mix 2	-0.0401	0.022	0.022	-0.0083	-0.0296	-0.0907	0.0379
Mix 3	0	0	0	0	0	0.0001	0
Mix 4	0	0	0	0.0001	0	-0.0399	-0.0004
Mix 5	-0.0007	-0.0006	-0.0006	-0.0006	-0.0009	-0.0413	0.0001
	Autocorrelation						
Mix 1	0.8372	0.9535	0.2021	0.4621	0.7316	0.8524	0.9528
Mix 2	0.6939	0.1992	0.1398	0.3778	0.1941	0.9264	0.9971
Mix 3	0.0448	0.0506	0.0507	0.0963	0.0058	0.9311	0.0654
Mix 4	0.0035	0.0053	0.0021	0.0079	0.0413	0.9898	0.0011
Mix 5	0.7436	0.0111	0.0097	0.0086	0.9896	0.9421	0.0122

Legend: Mix 1: fully-optimized rules. Mix 2: no wage-inflation target. Mix 3: No price-inflation target. Mix 4: Only price-inflation and government liability targets. Mix 5: Only wage-inflation and government liability targets. **Note:** The statistics reported here are generated from the model economy with the optimized policy rules of Table IV.