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TABLE 2—DETERMINACY VERSUS INDETERMINACY (I)

		Log-data density		Probability	
Sample	Prior	Determinacy	Indeterminacy	Determinacy	Indeterminacy
Pre-Volcker	1	−372.4	−359.1	0.000	1.000
	2	−372.4	−359.8	0.000	1.000
	3	−372.4	−358.7	0.000	1.000
Volcker-Greenspan	1	−368.6	−368.6	0.502	0.498
	2	−368.6	−369.4	0.692	0.308
	3	−368.6	−368.1	0.379	0.621
Post-1982	1	−237.4	−241.9	0.989	0.011
	2	−237.4	−241.5	0.984	0.016
	3	−237.4	−241.3	0.980	0.020

Notes: According to the prior distribution in Table 1 the probability of determinacy is 0.527. The posterior probabilities are calculated based on the output of the Metropolis algorithm. Log marginal data densities are approximated by John F. Geweke's (1999) harmonic mean estimator.

TABLE 3—PARAMETER ESTIMATION RESULTS (I)

	Pre-Volcker (Prior 1)		Pre-Volcker (Prior 2)		Post-1982	
	Mean	90-percent interval	Mean	90-percent interval	Mean	90-percent interval
ψ_1	0.77	[0.64, 0.91]	0.89	[0.81, 0.99]	2.19	[1.38, 2.99]
ψ_2	0.17	[0.04, 0.30]	0.15	[0.03, 0.27]	0.30	[0.07, 0.51]
ρ_R	0.60	[0.42, 0.78]	0.53	[0.43, 0.65]	0.84	[0.79, 0.89]
π^*	4.28	[2.21, 6.21]	3.98	[2.12, 5.84]	3.43	[2.84, 3.99]
r^*	1.13	[0.63, 1.62]	1.11	[0.73, 1.49]	3.01	[2.21, 3.80]
κ	0.77	[0.39, 1.12]	0.75	[0.38, 1.07]	0.58	[0.27, 0.89]
τ^{-1}	1.45	[0.85, 2.05]	2.08	[1.27, 2.84]	1.86	[1.04, 2.64]
ρ_g	0.68	[0.54, 0.81]	0.80	[0.75, 0.85]	0.83	[0.77, 0.89]
ρ_z	0.82	[0.72, 0.92]	0.69	[0.62, 0.76]	0.85	[0.77, 0.93]
ρ_{gz}	0.14	[−0.40, 0.71]	0.98	[0.96, 1.00]	0.36	[0.06, 0.67]
$M_{R\zeta}$	−0.68	[−1.58, 0.23]				
$M_{g\zeta}$	1.74	[0.90, 2.56]				
$M_{z\zeta}$	−0.69	[−0.99, −0.39]				
σ_R	0.23	[0.19, 0.27]	0.24	[0.20, 0.28]	0.18	[0.14, 0.21]
σ_g	0.27	[0.17, 0.36]	0.21	[0.16, 0.26]	0.18	[0.14, 0.23]
σ_z	1.13	[0.95, 1.30]	1.16	[0.97, 1.34]	0.64	[0.52, 0.76]
σ_ζ	0.20	[0.12, 0.27]	0.23	[0.15, 0.31]		

Notes: The table reports posterior means and 90-percent probability intervals (in brackets). Pre-Volcker posteriors are conditional on indeterminacy. Post-1982 posteriors are conditional on determinacy. Under Prior 2 $M_{R\zeta} = M_{g\zeta} = M_{z\zeta} = 0$. Conditional on determinacy posterior and prior means and probability intervals for $M_{R\zeta}$, $M_{g\zeta}$, $M_{z\zeta}$, and σ_ζ are identical. The posterior summary statistics are calculated from the output of the Metropolis algorithm.

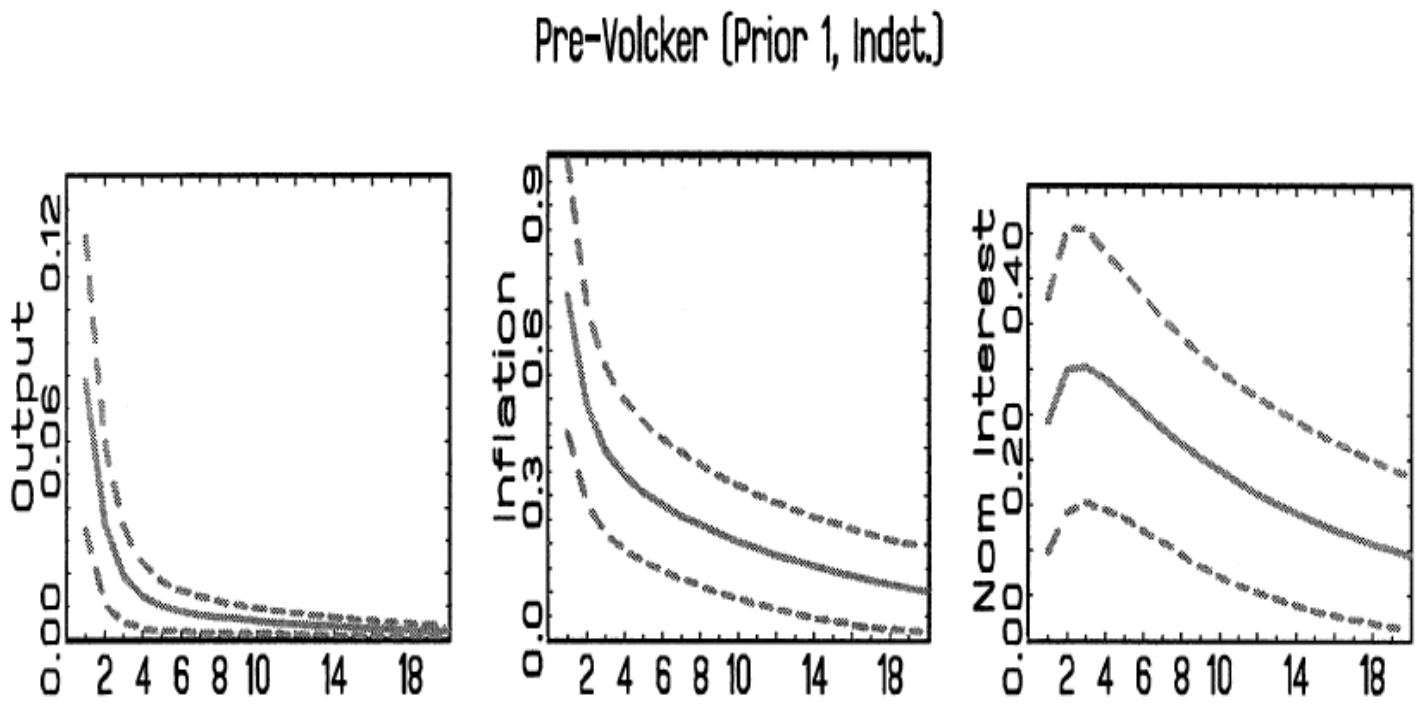

FIGURE 2. IMPULSE RESPONSES TO SUNSPOT SHOCK

Notes: Pre-Volcker sample, indeterminacy region (Prior 1). Figure depicts posterior means (solid lines) and pointwise 90-percent probability intervals (dashed lines) for impulse responses of output, inflation, and the nominal interest rate to a one-standard-deviation shock $\varepsilon_{\zeta,t}$.

TABLE 4—VARIANCE DECOMPOSITIONS

	Pre-Volcker (Prior 1)		Pre-Volcker (Prior 2)		Post-1982	
	Mean	90-percent interval	Mean	90-percent interval	Mean	90-percent interval
Output Deviations from Trend						
Policy	0.01	[0.00, 0.02]	0.01	[0.00, 0.02]	0.04	[0.01, 0.06]
Demand(*)	0.19	[0.00, 0.51]	0.97	[0.95, 0.99]	0.36	[0.09, 0.63]
Supply(*)	0.80	[0.47, 0.99]	0.01	[0.00, 0.03]	0.60	[0.33, 0.88]
Sunspot	0.00	[0.00, 0.01]	0.00	[0.00, 0.01]	0.00	[0.00, 0.00]
Inflation						
Policy	0.08	[0.00, 0.18]	0.07	[0.02, 0.11]	0.29	[0.14, 0.43]
Demand(*)	0.23	[0.01, 0.46]	0.17	[0.03, 0.30]	0.47	[0.32, 0.63]
Supply(*)	0.59	[0.32, 0.87]	0.07	[0.00, 0.14]	0.24	[0.07, 0.40]
Sunspot	0.10	[0.01, 0.18]	0.70	[0.50, 0.92]	0.00	[0.00, 0.00]
Interest Rates						
Policy	0.17	[0.00, 0.41]	0.08	[0.01, 0.15]	0.08	[0.03, 0.12]
Demand(*)	0.20	[0.00, 0.42]	0.16	[0.01, 0.29]	0.61	[0.38, 0.84]
Supply(*)	0.54	[0.25, 0.87]	0.05	[0.00, 0.10]	0.32	[0.12, 0.51]
Sunspot	0.08	[0.01, 0.15]	0.71	[0.51, 0.92]	0.00	[0.00, 0.00]

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Table 1: Prior densities and posterior estimates for the time invariant model and baseline model with stochastic volatility

Coefficient	Description	Prior			Posterior Time Invariant 2/			Posterior with Stochastic Volatility 3/		
		Density 1/	Mean	Std	Median	Std	[5 , 95]	Median	Std	[5 , 95]
ι_p	Price indexation	B	0.50	0.15	0.84	0.04	[0.77 , 0.91]	0.83	0.05	[0.75 , 0.91]
ι_w	Wage indexation	B	0.50	0.15	0.09	0.03	[0.05 , 0.14]	0.08	0.03	[0.04 , 0.13]
γ	SS technology growth rate	N	0.50	0.03	0.43	0.02	[0.39 , 0.47]	0.43	0.02	[0.39 , 0.47]
h	Consumption habit	B	0.50	0.10	0.81	0.03	[0.76 , 0.86]	0.84	0.03	[0.79 , 0.88]
λ_p	SS mark-up goods prices	N	0.15	0.05	0.22	0.04	[0.16 , 0.28]	0.23	0.04	[0.17 , 0.29]
λ_w	SS mark-up wages	N	0.15	0.05	0.17	0.04	[0.10 , 0.25]	0.16	0.04	[0.09 , 0.24]
$L^{ss}{}_{(\log)}$	SS labor	N	396.83	0.50	397.10	0.46	[396.32 , 397.83]	397.01	0.49	[396.20 , 397.80]
π	SS quarterly inflation	N	0.50	0.10	0.56	0.10	[0.40 , 0.71]	0.55	0.10	[0.39 , 0.71]
r	SS real interest rate	N	0.50	0.10	1.03	0.07	[0.91 , 1.15]	1.03	0.07	[0.90 , 1.15]
ν	Inverse Frisch labor	G	2.00	0.75	1.59	0.35	[0.98 , 2.12]	1.59	0.48	[0.94 , 2.47]
ξ_p	Calvo prices	B	0.75	0.10	0.90	0.01	[0.88 , 0.92]	0.91	0.01	[0.89 , 0.93]
ξ_w	Calvo wages	B	0.75	0.10	0.61	0.05	[0.52 , 0.69]	0.66	0.05	[0.57 , 0.74]
χ	Elasticity capital utilization costs	G	5.00	1.00	6.90	1.10	[5.25 , 8.91]	7.13	1.09	[5.45 , 9.02]
S''	Investment adjustment costs	G	3.00	0.75	2.72	0.48	[1.99 , 3.61]	3.30	0.57	[2.42 , 4.29]
Φ_p	Taylor rule inflation	N	1.70	0.30	1.92	0.13	[1.71 , 2.15]	1.90	0.14	[1.67 , 2.14]
Φ_y	Taylor rule output	G	0.13	0.10	0.10	0.02	[0.07 , 0.13]	0.08	0.02	[0.06 , 0.11]

(table continues on the next page)

Table 3: Log-Marginal Data Densities for baseline stochastic volatility model and alternative specifications

Specification	Log Marginal [1]
Baseline stochastic volatility model [2]	-1824.6
Time Invariant Model [3]	-1984.7
Determinate model with a single jump in volatilities	-1925.8
Split model with a jump in all coefficients and active policy in first subsample	-1947.9
Split model with a jump in all coefficients and passive policy in first subsample [4]	-1959.0
Split model with a jump in volatilities and passive policy in first subsample	-1941.1
Split model with a jump in policy only (passive to active)	-1983.4
Stochastic volatility with Taylor-rule responding to output gap [5]	-1843.6

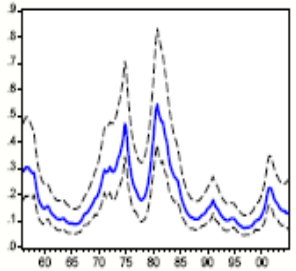
Table 4: Posterior estimates for split model on two subsamples allowing for indeterminacy

(jump in all coefficients)

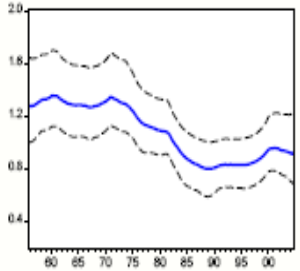
		Posterior Sample I: 1954q3-1983q4 /2					Posterior Sample II: 1984q1-2004q4 /2				
Coefficient	Description	Median	Std	[	5	95]	Median	Std	[	5	95]
ι_p	Price indexation	0.55	0.07	[	0.45	0.67]	0.66	0.08	[	0.51	0.79]
ι_w	Wage indexation	0.05	0.02	[	0.02	0.09]	0.31	0.07	[	0.20	0.43]
γ	SS technology growth rate	0.48	0.02	[	0.44	0.52]	0.47	0.02	[	0.43	0.51]
h	Consumption habit	0.67	0.03	[	0.61	0.72]	0.77	0.04	[	0.71	0.83]
λ_p	SS mark-up goods prices	0.23	0.04	[	0.16	0.29]	0.18	0.04	[	0.11	0.24]
λ_w	SS mark-up wages	0.11	0.04	[	0.07	0.20]	0.19	0.04	[	0.12	0.26]
L^{ss} (log)	SS labor	396.43	0.20	[	396.08	396.74]	396.28	0.38	[	395.62	396.88]
π	SS quarterly inflation	0.52	0.08	[	0.40	0.66]	0.82	0.07	[	0.71	0.95]
r	SS real interest rate	0.87	0.06	[	0.77	0.98]	0.75	0.07	[	0.64	0.86]
ν	Inverse Frisch labor	0.58	0.12	[	0.38	0.80]	1.92	0.61	[	1.15	3.11]
ξ_p	Calvo prices	0.91	0.02	[	0.88	0.94]	0.90	0.02	[	0.88	0.93]
ξ_w	Calvo wages	0.69	0.04	[	0.62	0.76]	0.45	0.08	[	0.34	0.60]
χ	Elasticity capital utilization costs	6.92	0.76	[	5.73	8.15]	4.94	0.90	[	3.70	6.63]
S''	Investment adjustment costs	1.48	0.19	[	1.12	1.77]	2.83	0.53	[	2.09	3.83]
Φ_p	Taylor rule inflation	0.52	0.09	[	0.37	0.68]	2.37	0.19	[	2.08	2.70]
Φ_y	Taylor rule output	0.19	0.03	[	0.14	0.24]	0.02	0.01	[	0.00	0.04]

Figure 1: Stochastic Volatility of Each Shock in DSGE Model

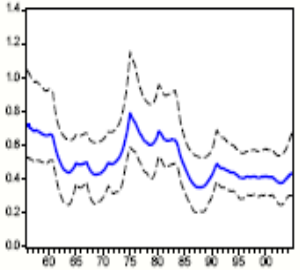
A. Monetary Policy



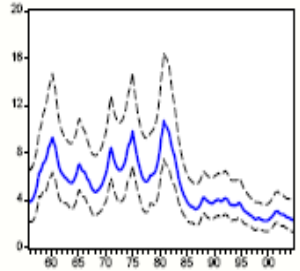
B. Neutral Technology



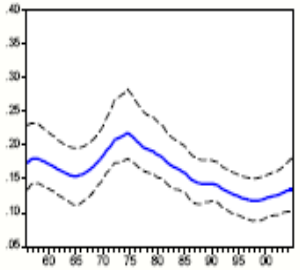
C. Government Spending



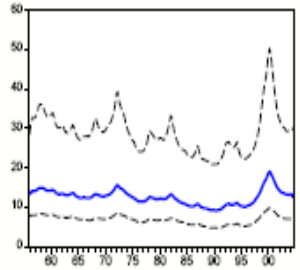
D. Investment Specific



E. Price Mark-Up



F. Labor Disutility



G. Intertemporal Preference

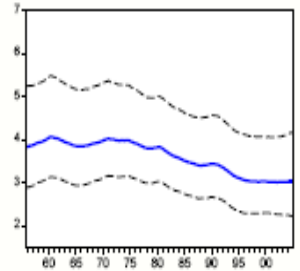
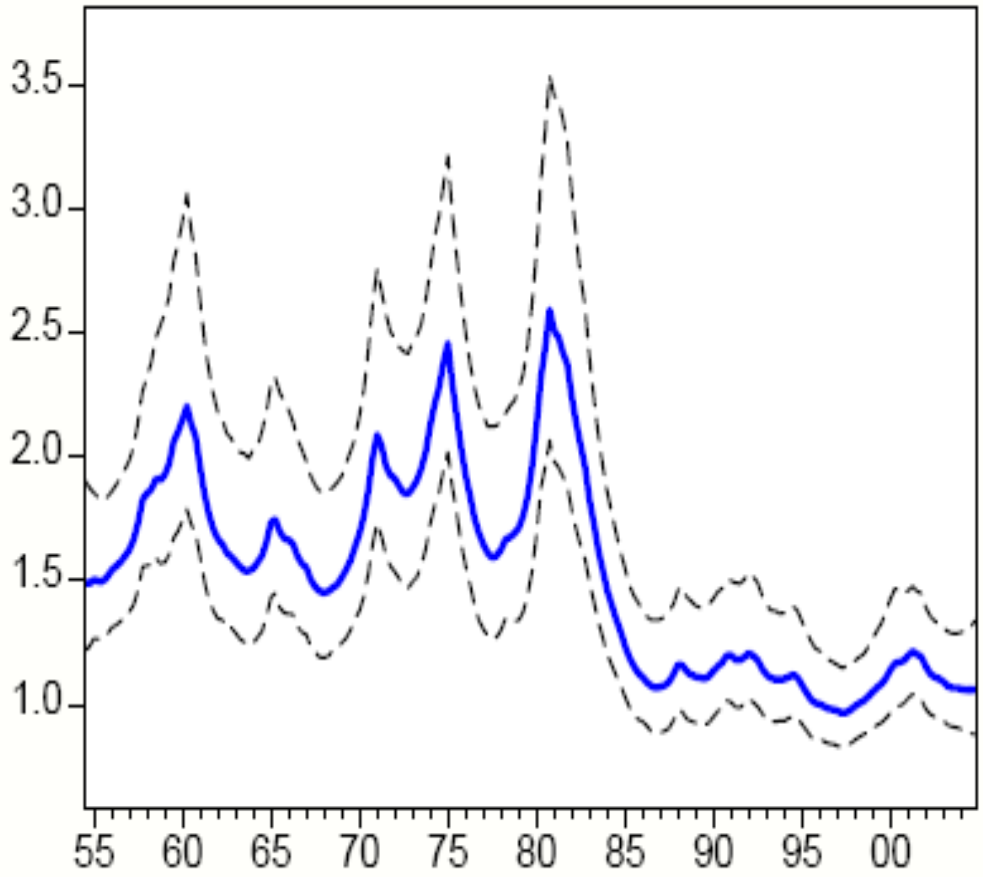


Figure 5: Time Varying Volatility of Output Growth Implied by Baseline DSGE Model



Median and associated 5-95 percentiles computed with the draws generated in the estimation of the baseline stochastic volatility model

Figure 6: Actual and Counterfactual Standard Deviation (Std) for Output Growth

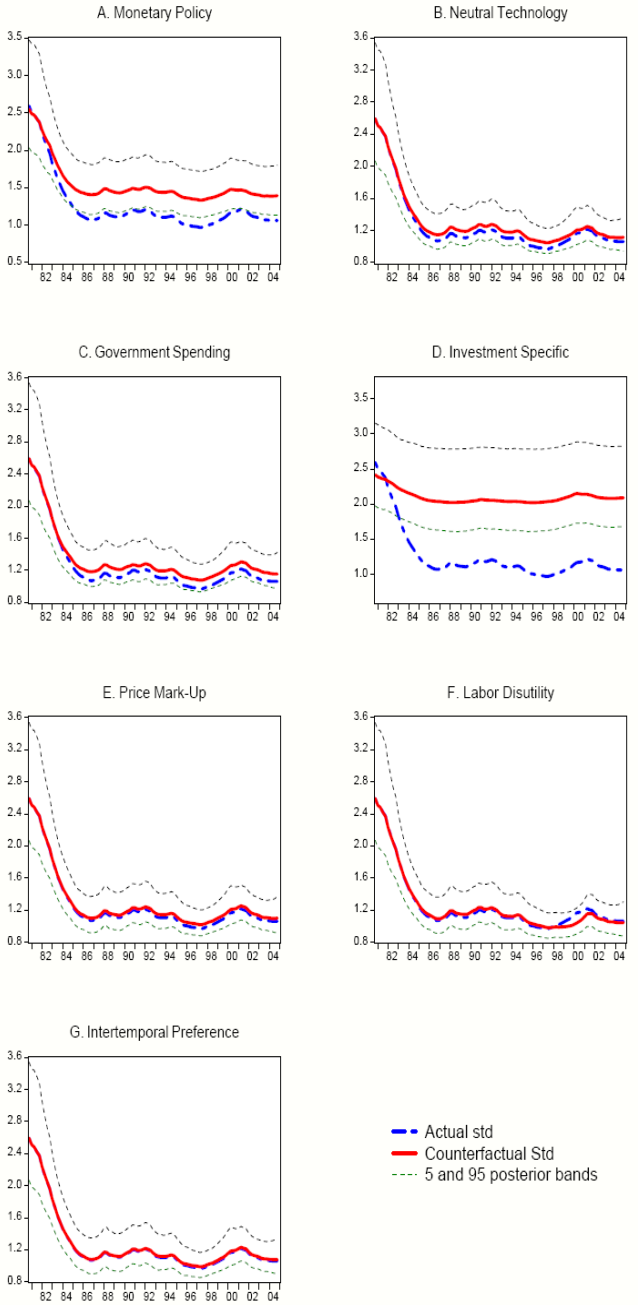


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Figure 3.6: Which Shocks Were Responsible for the Volatility Decrease of the 1980s?