Discussion of "Model Uncertainty and the Gains from Coordinating Monetary Rules"

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Summary of Paper

- Estimate US-Euro two country sticky wage & price DSGE model using Bayesian methods
- Evaluate inflation forecast-based monetary policy rules using ad hoc policy objective, allowing for parameter uncertainty
- Examine benefits of policy coordination

Summary of Discussion

- The Great Divide: Micro Evidence and Aggregate Data
- Parameter Uncertainty: Thinking Outside the Box
- Just Say No to IFB Rules

The Great Divide: Micro Evidence and Aggregate Data

Calvo price adjustment

$\xi_F = 0.96$

$\xi_H^* = 0.97$

Calvo wage adjustment

$\xi_W = 0.89$

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$\xi_F = 0.96$: 20% of firms have not changed prices in 10 years, and 4% have not changed prices in 20 years.

$\xi_H^* = 0.97$: 30% of firms have not changed prices in 10 years, and 9% have not changed prices in 20 years.

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These estimates defy plausibility and undermine any claim of microfoundations.

Parameter Uncertainty

- Objective function
- Measuring parameter uncertainty

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In a model with sticky wages, the welfare-based objective places a large penalty on wage inflation variability (Erceg, Henderson, and Levin 2000; Levin, Onatski, J. Williams, and N. Williams 2005)

Importantly, when welfare is the policy objective, parameter uncertainty implies uncertainty about the weights in the welfare function (Levin and Williams 2004; LOWW 2005).

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Importantly, when welfare is the policy objective, parameter uncertainty implies uncertainty about the weights in the welfare function (LW 2004; LOWW 2005).

This paper, however, assumes a fixed objective function that penalizes inflation, output, and interest rate variability, with weights appropriate for a very different model.

Parameter Uncertainty

Measuring Parameter Uncertainty

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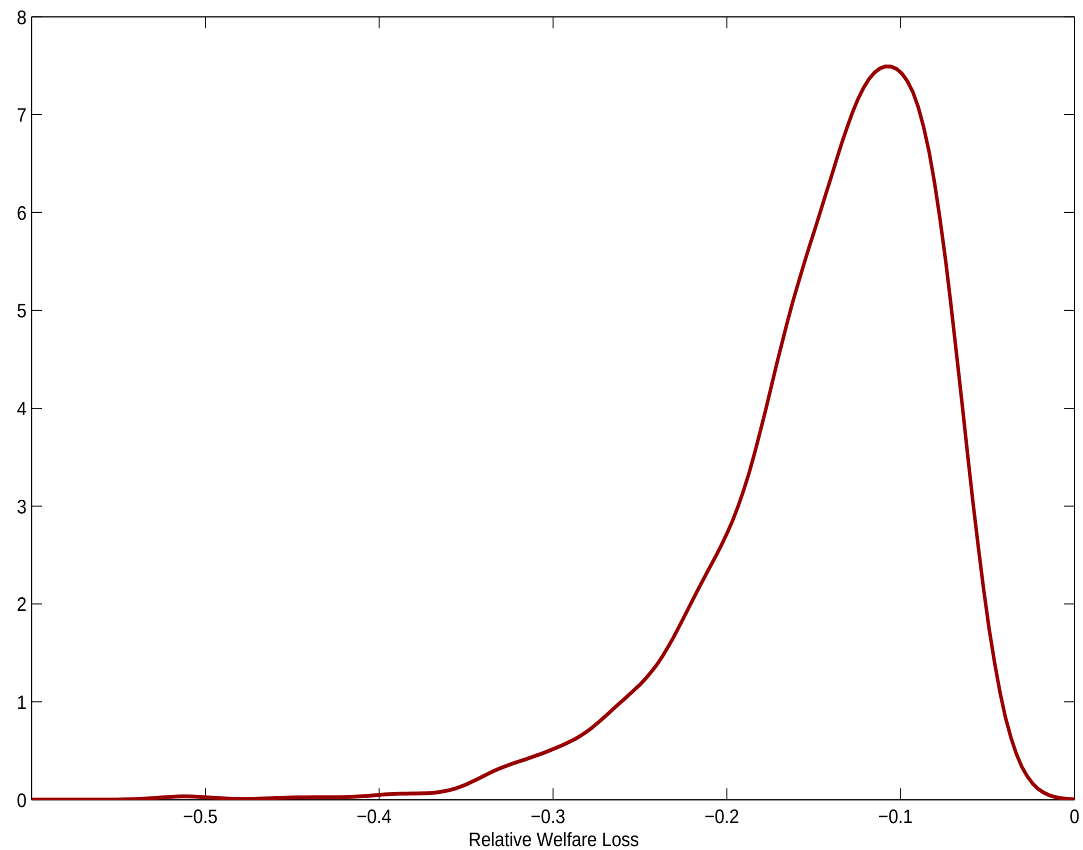
LOWW (2005) finds that optimal policy rule is very robust to parameters drawn from posterior (see also Rudebusch 2001).

Figure 1: Distribution of Welfare Loss under Benchmark Policy (LOWW)



Note: Welfare difference between Ramsey optimal policy and benchmark wage inflation rule, measured in units of consumption.

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Parameter uncertainty narrowly defined is unimportant for the design of monetary policy.

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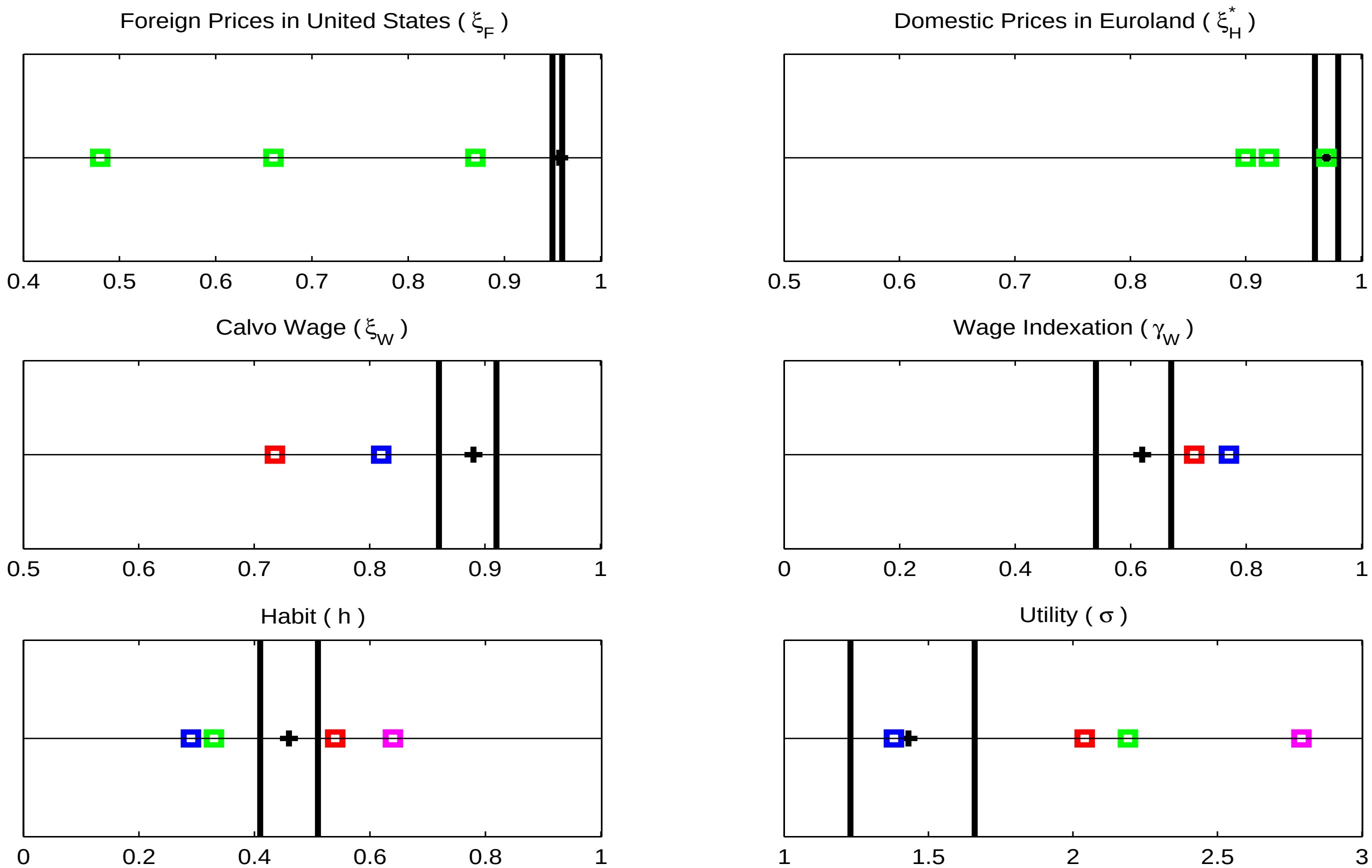
Figure 2: Parameter Uncertainty: Thinking Outside the Box



Note: The vertical black lines show the 90% posterior intervals from BJLP, the plus signs the point estimates. The boxes indicate estimates from SW 2003 (red), ELW 2004 (magenta), LOWW 2005 (blue), LS 2005 (green).

Parameter Uncertainty

Measuring Parameter Uncertainty

Do posterior distributions provide a good measure of parameter uncertainty?

Uncertainty spans a larger set than that applied by estimate uncertainty in any given model.

Model uncertainty – including specification, sample, priors, etc.– is of first-order importance for designing robust monetary policies. (LW 2004)

Just Say No to IFB Rules

The Problems with IFB Rules

Prone to indeterminacy (Bernanke-Woodford 1997, Levin, Wieland, Williams 2003)

Perform worse than outcome-based generalized Taylor Rules (LWW 2003) for the reasons clearly elucidated in Giannoni and Woodford (2004).

Moreover, when forecast horizon is not zero, policy contaminated by forecast errors.

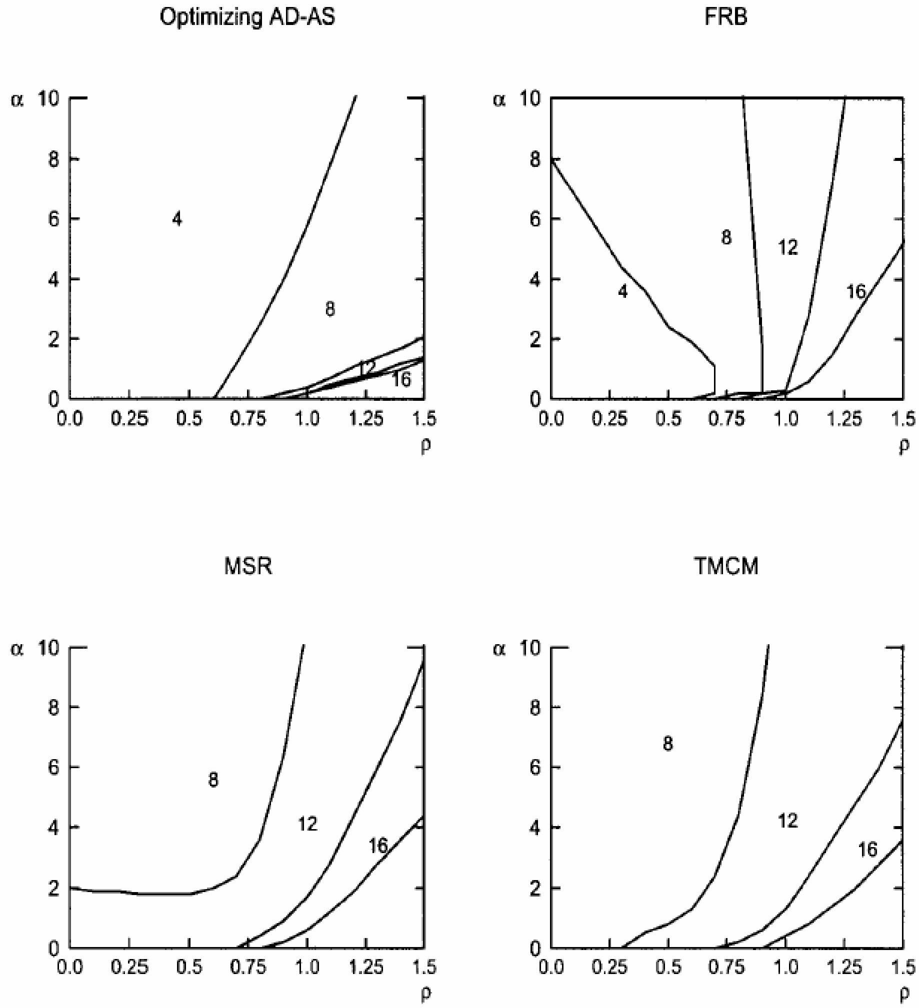


FIGURE 3. CROSS-MODEL COMPARISON OF INDETERMINACY REGIONS: $\beta = 0$

Notes: For each specification of the inflation forecast horizon (4, 8, 12, and 16 quarters), multiple equilibria occur for all combinations of the parameters α and ρ that lie to the northwest of the corresponding curve. If no curve is shown for a particular forecast horizon, then that specification yields determinacy for all combinations of $0 \leq \alpha \leq 10$ and $0 \leq \rho \leq 1.5$.

TABLE 3—CHARACTERISTICS AND PERFORMANCE OF OPTIMIZED RULES

Model	λ	θ	κ	ρ	α	β	$\%\Delta\mathcal{L}$
Optimizing	0	0	1	0.78	16.55	−0.64	−20
AD-AS	⅓	0	0	1.57	7.27	6.12	0
	1	0	0	1.55	3.04	6.23	0
	3	0	0	1.55	1.49	6.26	0
FM	0	1	0	0.96	0.51	0.10	0
	⅓	0	4	0.97	0.86	0.68	−1
	1	0	4	1.00	0.67	0.98	−1
	3	0	4	1.02	0.43	1.12	−1
FRB	0	4	1	1.28	5.47	0.02	−10
	⅓	0	2	1.16	1.63	1.46	−5
	1	0	2	1.19	1.21	1.97	−7
	3	0	2	1.19	0.74	2.16	−9
MSR	0	0	0	0.96	4.14	0.02	0
	⅓	0	1	1.25	2.91	1.92	−3
	1	0	1	1.22	1.71	2.01	−3
	3	0	1	1.19	0.99	2.03	−1
TMCM	0	2	0	1.04	3.59	0.11	−4
	⅓	2	0	0.97	1.33	1.28	0
	1	1	1	1.31	1.52	4.93	0
	3	1	1	1.33	0.85	5.10	−1

Notes: For each model and each value of the preference parameter λ, this table indicates the optimal forecast horizons for inflation and the output gap (θ and κ, respectively) and the optimal coefficient values (ρ, α, and β). The table also indicates the percent change in the policy maker's loss function ($\%\Delta\mathcal{L}$) generated by the rule relative to the optimized outcome-based rule.

TABLE 4—RULES WITH NO EXPLICIT OUTPUT GAP RESPONSE

Model	λ	θ	ρ	α	$\%\Delta\mathcal{L}$
Optimizing AD-AS	0	0	1.57	51.46	0
	⅓	2	−0.42	8.80	734
	1	2	−0.42	8.90	2,721
	3	2	−0.47	8.34	3,216
FM	0	9	1.21	2.55	1
	⅓	18	1.28	20.29	2
	1	18	0.77	4.60	11
	3	20	0.62	3.47	30
FRB	0	4	1.27	5.45	−10
	⅓	7	0.96	7.41	167
	1	8	0.94	8.70	407
	3	8	0.93	8.47	793
MSR	0	0	0.95	3.90	0
	⅓	5	−0.06	3.11	117
	1	4	−0.38	1.79	195
	3	4	−0.52	1.14	295
TMCM	0	3	1.14	4.92	−4
	⅓	3	0.73	3.41	24
	1	3	0.58	3.02	55
	3	6	0.50	7.91	87

Notes: For each model and each value of the preference parameter λ, this table indicates the optimal inflation forecast horizon (θ) and optimal coefficient values (ρ and α) for rules without an explicit response to the output gap (that is, $\beta \equiv 0$). The table also indicates the percent change in the policy maker's loss function ($\%\Delta\mathcal{L}$) generated by the rule relative to the optimized outcome-based rule.

Just Say No to IFB Rules

The Problems with IFB Rules

This paper confirms the previous findings that IFB rules are problematic.

Then, why the continued focus on them?

The examination of the benefits of policy coordination would be more coherent and convincing if it was shown that the class of simple rules being studied were nearly optimal.

Or better yet, look at optimal policies under commitment; it is feasible and would measure precisely the potential benefits of coordination.