

An Econometric Model of Monetary Policy Decision-Making

with Applications to the United Kingdom and Sweden

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1

Monetary Policy Committees

- Blinder reports that monetary policy choices are increasingly made by committees rather than single individuals
 - This is probably related to the trend to make central banks more independent

2

Do Groups Make Better Decisions?

- Blinder gives reasons groups might make better decisions:
 - Less chance that a single “odd” individual will make all choices
 - Information pooling
 - Information
 - Forecasts
 - Theories
 - Different heuristics for dealing with problems may lead to better outcomes

3

Blinder’s Typology

- In practice, committees differ.
- Blinder (2004, 2007) says that Monetary Policy Committees (MPCs) can be classified as:
 - Individualistic
 - Autocratically collegial
 - Genuinely collegial

4

Committee Decisions

- Many central banks make decisions by majority vote of a committee
 - The Federal Reserve
 - The Bank of England
 - The Riksbank
- We repeatedly observe recorded votes on the level for a target interest rate

5

King and George at the BOE

- George was Governor 1999-2003
 - King dissented 9 times as a rank-and-file member, always favoring additional tightness.
- King was Governor 2003-present
 - King dissented only 2 times, again favoring additional tightness
- Rank-and-file members dissent much more frequently than governors
 - Rank-and-file members dissented from the committee’s chosen outcome 15.8% of the time; Governors 1.7% of the time.

6

A Natural Experiment

- Why did King's voting pattern change?
 - Answer #1: If the Governor has power, then when King became Governor, the committee followed his preference for tightness, and King did not need to dissent.
 - Answer #2: If the Governor is obliged to behave consensually, then he dissents less frequently when he assumes the Governorship

7

Implications

- If the Governor has power:
 - The adopted policy stance should shift when the Governorship changes hands.
 - Other members' dissent voting patterns would also shift.
- If the Governor is not powerful:
 - Neither the adopted policy stance nor voting patterns of other members will shift notably when the governorship changes hands.

8

Blinder's Typology Revisited

- How would we classify the BOE? or the Riksbank?
 - Individualistic
 - Autocratically collegial
 - Genuinely collegial

9

An Econometric Model

- Our Objective:
 - Develop an econometric model that can distinguish the hypotheses implicit in in Blinder's typology.

10

What We Do

- We develop an econometric model of monetary policy committee (MPC) decision-making that describes:
 - Monetary policy preferences of individual MPC members
 - Preference aggregation through majority voting.
 - Power of the chairman and consensualism
- The model is applied to MPCs for the central banks of the United Kingdom and Sweden.

11

Elements of the Econometric Model

- Key elements of the model include:
 - A specification of each individual committee member's "true" monetary policy preference
 - A description of how individuals' policy preferences are modified as the committee deliberates
 - A mapping of individual preferences to a committee decision
 - A description of formal voting

12

Special Cases of the Model

$\theta = \omega = \omega_c = 0$	Individualistic
θ large and ω small	Autocratically Collegial
θ small and ω large	Genuinely Collegial

13

Econometric Method

- The Basic Structure of the Model
 - Each meeting provides an observation on the vote of each member of the committee.
 - Each member reports a vote for the status quo interest rate or for a rate that is higher or lower.
 - We have a complex and nonlinear multivariate discrete choice model.
 - We wish to estimate all model parameters

14

Results for the BOE

- Key findings:
 - No influence from the Governor on other MPC members.
 - The Governor defers to the median, but other MPC members do not.
 - Results primarily support the view that the MPC is individualistic.
 - Individual member intercepts are plausible in light of voting behavior.

15

Results for the Riksbank

- Key Findings
 - The weight members accord the Chairman's preference is very large.
 - Members do not defer to the median.
 - Results primarily support the view that the MPC is autocratically collegial.
 - Individual member intercepts are plausible in light of voting behavior.

16

Table 5. Parameter Estimates: Sweden

Parameter	Model 1	Model 2	Model 3
β_p	0.0871	0.0100	0.0600
β_{pp}	0.1325	0.0200	0.1071
β_{mca}	--	--	0.0940
β_{mca}	0.9400	0.8963	0.9128
β_{mca}	0.1736	0.0410	0.1035
σ_v	0.0170	0.1224	0.0469
θ	0.0000*	0.8460	0.6599
ω	0.0000*	0.0000*	0.0000*
ω_c	1.0000*	1.0000*	1.0000*
<i>Individual Intercepts:</i>			
Eva Srejber	0.3675	0.6059	0.4647
Svante Oberg	0.4193	0.8142	0.5913
Urban Bäckström	0.4674*	0.4674	0.4530
Lars Heikensten	0.3153	0.1872	0.3141
Stefan Ingves	0.3527	0.5505	0.4255

17

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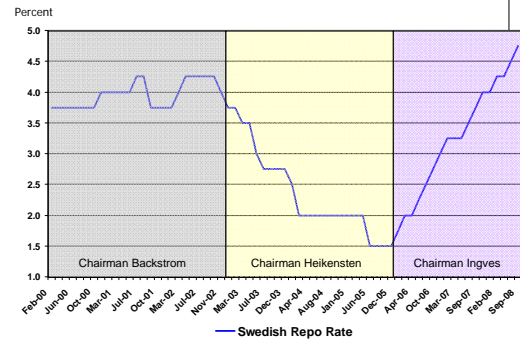
18

More on the Power of the Governor

- Thoughts on the power of the Governor
 - The three Governors (Bäckström, Heikensten, and Ingves) have widely varying intercepts, although none ever dissented.
 - Could policy shifts that coincide with changes in the Governorship produce a spurious estimate of the Governor's influence?

19

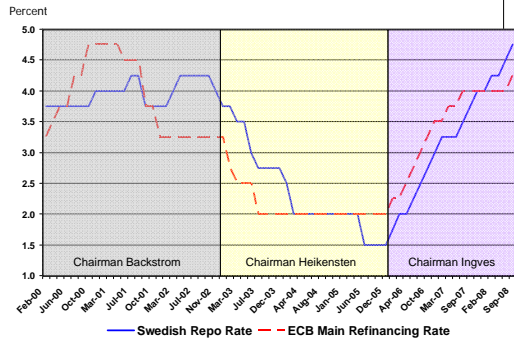
Figure 1. Target Interest Rates: Swedish Riksbank, 2000-2008



Sources: Archives of the Riksbank and the ECB
Note: Each hash mark represents a meeting with an interest rate decision of the Riksbank.

20

Figure 2. Target Interest Rates: Swedish Riksbank and ECB, 2000-2008



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Note: Each hash mark represents a meeting with an interest rate decision of the Riksbank.

21

Investigating Coincidence

- An Alternative Specification
 - We add the ECB policy rate as an independent variable in members' reaction function specifications.
- Results:
 - The weight of the Chairman is smaller, but still large.
 - Differences across Governors are less extreme.
 - Still a spurious result?

22

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σ_c	0.0170	0.1224	0.0469
θ	0.0000*	0.8460	0.6509
α	0.0000*	0.0000*	0.0000*
α_1	1.0000*	1.0000*	1.0000*
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23

Conclusions

- Our findings show that:
 - The BOE is appropriately characterized as an individualistic committee.
 - The Riksbank is best characterized as autocratically collegial.
 - We remain skeptical of this result.

24

Looking Ahead



- Research Agenda
 - Since September, rates in Sweden (and elsewhere) have fallen.
 - This occurred without a change in the Governorship.
 - Can we resolve the issue of a spurious connection between previous rate shifts and changes in the Governorship?
 - Recent rate changes exceeded 25 basis points
 - We can estimate a model for Sweden permitting more discrete choices.
 - A Model for the Fed
 - A model in which individual differences are “random” rather than fixed may be required.

25

The End



26