

Deconstructing Monetary Policy Surprises: Do Systematic Changes in the MPC Matter?

Marina Kotsa, UCL

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Answer: YES! And helps us solve the **price puzzle**

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- 1 Evidence that the Committee's changing hawk-dove composition have predictable effects on FOMC decisions.

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- 2 Individual members' reaction functions differ for the same economic conditions placing more weight on personal economic forecasts

Brooks *et al.* (2007), Bhattacharjee and Holly (2005), Besley *et al.* (2008), Spencer (2007), Harris and Spencer (2009), Gerlach-Kristen (2009), Harris *et al.* (2011)

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- 3 **Proxy-SVAR** for a monetary policy shock on macroeconomic variables

$$\mathbf{A}_0 \mathbf{Y}_t = \sum_{l=1}^p \mathbf{A}_l \mathbf{Y}_{t-l} + \epsilon_t,$$

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▶ Perceived Hawk/Dove

▶ Dissents

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③ Proxy-SVAR:

- ▶ **Monthly data:** *log* Industrial Production level (*ONS*), *log* CPI, interest rate (*Bank of England*), unemployment rate (*ONS*), and *log* FTSE100 in levels (measured by the closing value at the end of each month)

Summary Statistics

	Hawk	Dove	Swinger	Total(%)
Education, highest				
PhD	9	14	5	60.9%
Other	6	5	7	39.1%
Education, Subject				
Economics	12	16	8	78.2%
Other	3	3	4	21.7%
University				
Saltwater	11	14	10	76.1%
Other	4	5	2	23.9%
All	32.6%	41.3%	26.1%	

- Hawk supermajority: 21 meetings
- Dove supermajority: 53 meetings

MPC composition varies over time

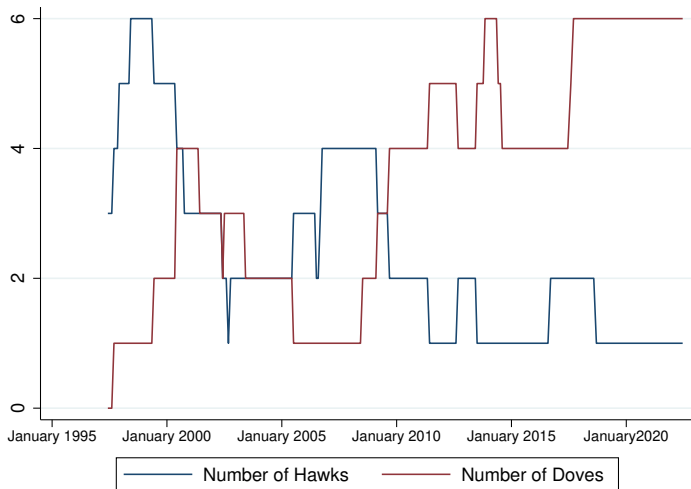


Figure: Cumulative composition of the MPC, excluding the centerists members.

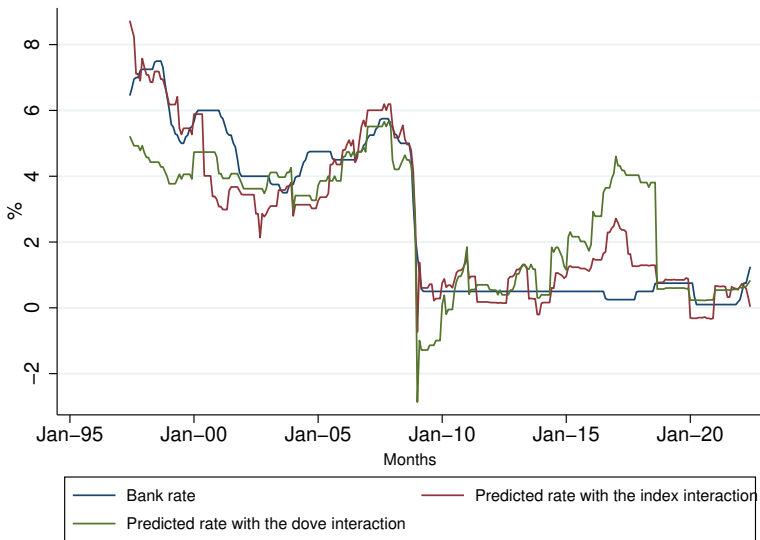
MPC Index captures exogenous component of policy shock

	(1)	(2)	(3)
Inflation Forecast	1.52*** (0.213)	1.34*** (0.164)	0.76*** (0.180)
Output gap	0.99*** (0.037)	0.69*** (0.039)	0.96*** (0.029)
MPC Index		3.00*** (0.259)	
Hawk Supermajority			2.16*** (0.195)
Constant	1.01* (0.474)	1.07** (0.364)	2.43*** (0.392)
R^2	0.81	0.89	0.89
AIC	551.7	449.7	457.1
BIC	561.5	462.7	470.2

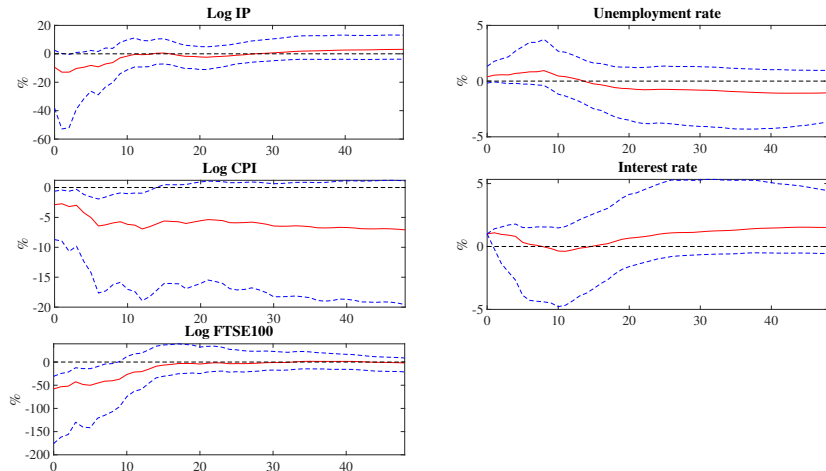
Table: OLS results of the subsample until August 2013

Sufficient and necessary condition: $\phi_{\pi} > 1$ as long as $\phi_{dy} > 0$ to achieve **saddle path stability**.
Consistent with equilibrium determinacy stabilising inflation expectations and eliminating self-fulfilling equilibria.
Heteroskedasticity and autocorrelation adjusted (HAC) standard errors.

Predicted rates using the interactions on the full sample.



Proxy-SVAR results- solving the price puzzle!



Augmented rule up until August 2013.

IRFs of the logged variables are multiplied by 100 representing a percentage deviation.

90% standard-error bands computed using 10,000 bootstrap replications.

First-stage F — *statistic* = 3.8

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- Incorporating social psychology to analyse the MPC composition accounts for previously unobserved heterogeneity in monetary policy shocks
- The MPC index as a proxy in an augmented Taylor Rule effectively resolves the price puzzle
- Enhances our understanding of monetary policy impacts.

The end

Thank you!

Expected Hawk/Dove

Name	Policy preference	Newspaper quote	Source
Silvana Tenreyo	Expected Dove	"New to the MPC for the August meeting. Her current views are unknown, but she is known to be pessimistic about the economic consequences of Brexit and took a dovish attitude towards monetary policy when serving on the Bank of Mauritius MPC."	"The Bank of England's MPC: who are the doves and hawks?", <i>FT</i> , 22 June 2017
Michael Saunders	Expected Hawk	"Mr Saunders, a long-term believer in the importance of exchange rates in determining inflation, is expected to fall into the more hawkish end of the committee although is unlikely to rock the boat by voting for action immediately."	"Michael Saunders to join Bank of England's MPC", <i>FT</i> , 15 April 2016.
Andrew Haldane	Expected Hawk	"Wearing my Monetary Policy Committee hat, and with UK inflation already below target, this is something I am watching like a dove."	"BoE's Haldane says watching risks of low inflation like a dove", <i>Reuters</i> , 16 November 2014.
Martin Weale	Expected Dove	"Weale is strong on the need for medium-term fiscal adjustment and I don't think he will be in rush to raise interest rates," said Brian Hilliard, UK economist at Societe Generale	"NIESR's Weale to join Bank rate-setters", <i>Reuters</i> , 5 July 2010.
Willem Buiter	Expected Hawk	"Macroeconomist par excellence. A fan of European Monetary Union, concerned to get the United Kingdom economy more in line with European partners, to curb pay rises and nip inflation in the bud."	"Super models shame about the figures", <i>Times higher Education</i> , 31 June 1998.

Perceived Hawk/Dove

Name	Policy preference	Newspaper quote	Source
Paul Fisher	Dove	"He is considered one of the committee's most dovish members. In January he said the Bank should not get too concentrated about short-term inflation and set monetary policy for the longer term."	"Growth worries halt advance of Bank of England hawks", <i>Reuters</i> , 21 April 2011.
Michael Saunders	Hawk	"Markets have priced in over the last few months an earlier rise in Bank rate than previously and I think that's appropriate."	"Doves and Hawks: Who are the Bank of England rate setters and how might they vote?", <i>Express</i> 1 November 2021.
Andrew Haldane	Hawk	"Haldane's departure is seen as making any imminent interest rate rise less likely."	"What Andy Haldane's departure means for the Bank of England", <i>Yahoo Finance</i> , 14 April 2021.
Mervyn King	Hawk	"The Governor is a self-confessed 'inflation nutter' and has long been considered hawkish in his approach to setting interest rates. It is he who has twice had to write to the Chancellor of the Exchequer to explain why inflation is so high. King's recent voting record also tells a story."	"Hawks and doves face off over rates moves", <i>This is Money</i> , 25 July 2008.
DeAnne Julius	Dove	"The former British Airways chief economist, was the MPC's first "ultra-dove"-consistently favouring rate cuts until her term expired last year."	"Watching Wadhvani; The inflation "doves" in the Bank of England may be winning", <i>Prospect</i> , 20 May 2002.

Dissents

The MPC has been divided about two-thirds of the time since 1997. There is at least one member dissenting from a decision in the majority of MPC meetings.

Example 1: 4th November 2021			Example 2: 3rd February 2022		
Name	Vote	Code I	Vote	Code I	Code II
Bailey	+0	0	+0.25	1	0
Broadbent	+0	0	+0.25	1	0
Cunliffe	+0	0	+0.25	1	0
Haskel	+0	0	+0.5	1	1
Mann	+0	0	+0.5	1	1
Pill	+0	0	+0.25	1	0
Ramsden	+0.15	1	+0.5	1	1
Saunders	+0.15	1	+0.5	1	1
Tenreyo	+0	0	+0.25	1	0

Example 1: coded as 1 with the hawkish choice, the rest were coded with 0 which is the dovish choice.

Example 2: coded as 1 with the hawkish choice and coded as 1 in the second stage while the remaining members were coded as 0, the dovish choice.

Extending the dataset from Eijffinger *et al.* (2015).

[▶ Return](#)

OLS results for the full sample

	(1)	(2)	(3)
Inflation Forecast	0.03 (0.293)	0.24* (0.093)	0.02 (0.125)
Output gap	0.88*** (0.051)	0.39*** (0.037)	0.78*** (0.046)
MPC Index		5.31*** (0.184)	
Hawk Supermajority			3.34*** (0.290)
Dove Supermajority			-2.10*** (0.273)
Constant	3.09*** (0.635)	2.97*** (0.216)	3.20*** (0.273)
R^2	0.39	0.84	0.65
AIC	1245.9	844.8	1086
BIC	1257.1	859.6	1104.6

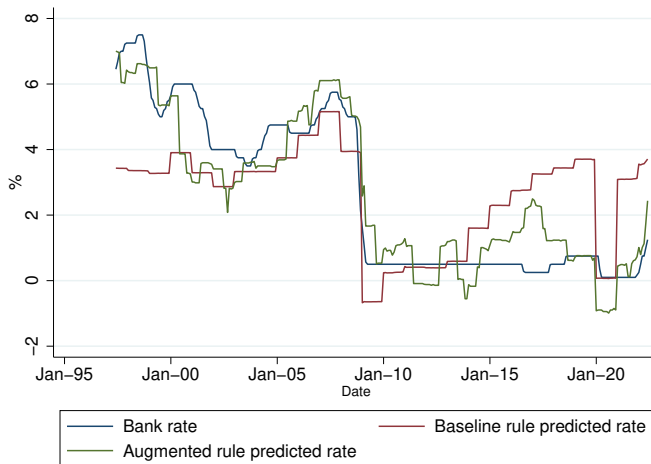
OLS estimation of the subsample up until March 2009

	(1)	(2)	(3)
Inflation Forecast	2.15*** (0.203)	1.84*** (0.236)	1.43*** (0.179)
Output gap	0.49*** (0.071)	0.38** (0.091)	0.56*** (0.056)
MPC Index		2.27*** (0.432)	
Hawk Supermajority			1.61*** (0.175)
Constant	0.04 (0.457)	0.34 (0.507)	1.35*** (0.388)
R^2	0.54	0.69	0.71
AIC	355.4	299.5	290.1
BIC	364.3	311.3	301.9

Bai and Perron (1998) test for multiple breaks

[▶ Return](#)

No Structural Shock



Robustness Check II

robust Modify the Taylor rule specification:

- 1 **Cloyne and Hürtgen (2016)** to capture a potential unobserved heterogeneity including revision forecasts.

$$\Delta i_t = \alpha + \beta i_{t-1} + \phi_\pi E_{t-} \pi_{t+1} + \phi_{dy} E_{t-} dy_t + \delta(E_{t-} \pi_{t+1} - E_{t-} \pi_{(t-1)+1}) + \zeta(E_{t-} dy_t - E_{t-} dy_{t-1}) + \psi_t.$$

Baseline model marginally improved

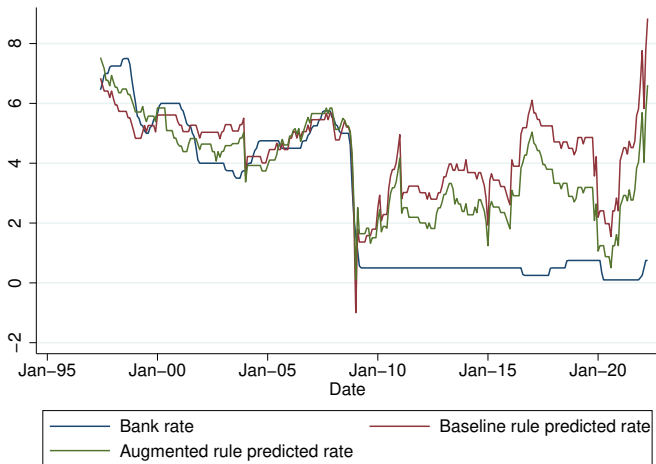
- 2 **Interest rate smoothing** hypothesis to capture the observed inertia in interest rates (Rudebusch, 2006; Coibion and Gorodnichenko, 2012)

$$i_t = \alpha + \beta i_{t-1} + \phi_\pi E_{t-} \pi_{t+1} + \phi_{dy} E_{t-} dy_t + \gamma MPCindex_t + v_t.$$

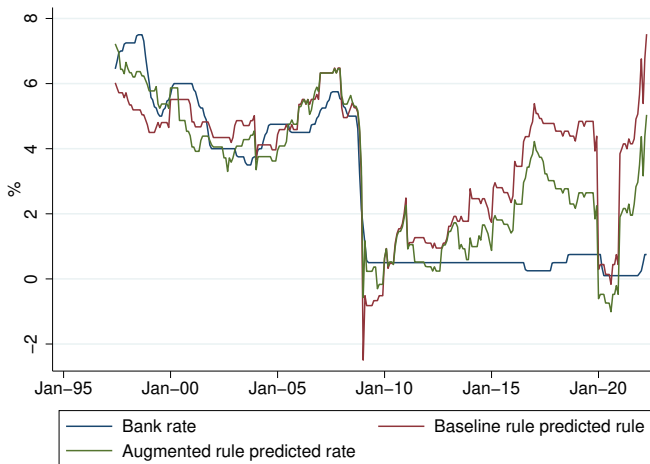
Results lead to saddle path instability

Overall: the MPC index accounts for some unobserved heterogeneity in the baseline Taylor rule for the UK.

Structural Shock: March 2009



Structural Shock: August 2013



Forecast Revisions I

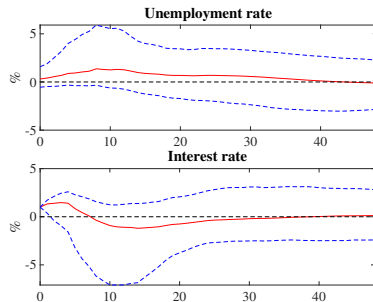
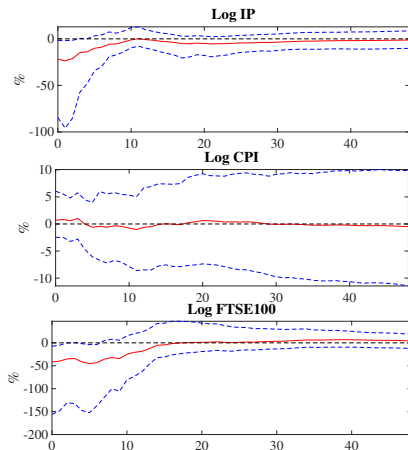
	(1)	(2)	(3)	(4)	(5)	(6)
i_{t-1}	-0.012* (0.005)	-0.048* (0.019)	-0.039** (0.013)	-0.004 (0.009)	-0.037 (0.024)	-0.036* (0.017)
Inflation Forecast	0.055 (0.031)	0.319*** (0.067)	0.194*** (0.045)	0.052* (0.021)	0.305*** (0.070)	0.190*** (0.047)
Output Gap	0.012 (0.007)	0.101*** (0.020)	0.040** (0.014)	0.011 (0.007)	0.100*** (0.020)	0.039** (0.015)
$\Delta(\text{Inflation Forecast})$	0.018 (0.080)	0.250** (0.094)	0.147* (0.072)	0.021 (0.043)	0.259** (0.095)	0.149* (0.072)
$\Delta(\text{Output Gap})$	0.034 (0.022)	-0.065 (0.040)	0.021 (0.033)	0.035 (0.019)	-0.066 (0.040)	0.021 (0.033)
MPC Index				-0.055 (0.055)	-0.072 (0.093)	-0.023 (0.0770)
Constant	-0.0997 (0.065)	-0.553*** (0.113)	-0.280** (0.088)	-0.121* (0.052)	-0.565*** (0.114)	-0.283** (0.089)
R^2	0.091	0.301	0.174	0.109	0.304	0.175
AIC	-291.65	-75.76	-136.4	-290.7	-74.41	-134.5
BIC	-269.43	-58.07	-116.8	-264.7	-53.77	-111.6

(1) Baseline full sample. (2) Baseline March 2009. (3) Baseline August 2013. (4) Augmented full sample. (5) Augmented March 2009. (6) Augmented August 2013. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

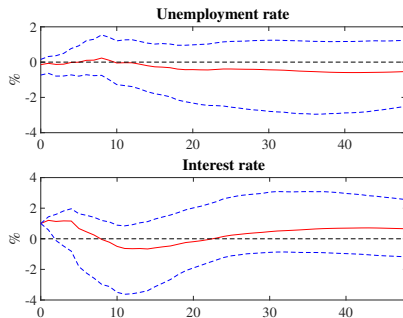
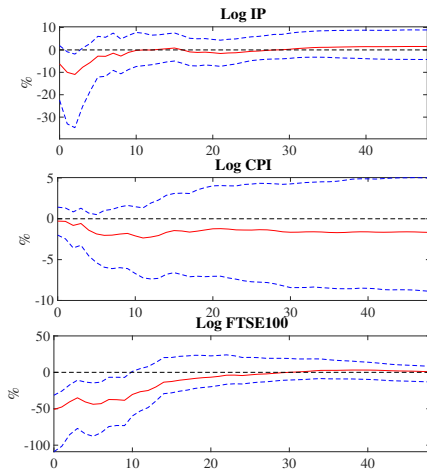
Revision Forecasts Interaction Terms

	(1)	(2)	(3)	(4)	(5)
i_{t-1}	-0.0283** (0.009)	-0.0489 (0.026)	-0.0350 (0.019)	-0.0104* (0.00468)	-0.0138** (0.00451)
Inflation Forecast	0.076** (0.023)	0.319*** (0.069)	0.180*** (0.047)	0.0583** (0.021)	0.0891*** (0.0236)
Output Gap	0.028*** (0.008)	0.108** (0.037)	0.0378* (0.015)	0.0114 (0.00644)	0.0142* (0.00629)
Δ (Inflation Forecast)	0.0326 (0.043)	0.248* (0.095)	0.165* (0.073)	0.0114 (0.043)	0.124* (0.0525)
Δ (Output Gap)	0.024 (0.019)	-0.065 (0.040)	0.010 (0.033)	0.0343 (0.019)	0.0609* (0.0252)
Inflation Forecast, MPC Index	0.046 (0.024)	0.003 (0.047)	0.023 (0.034)		
Output Gap, MPC Index	0.053** (0.019)	-0.030 (0.134)	0.062 (0.036)		
Inflation Forecast, Hawk supermajority				0.224 (0.510)	
Output Gap, Hawk supermajority				1.851 (1.461)	
Inflation Forecast, Dove supermajority					-0.229** (0.071)
Output Gap, Dove supermajority					-0.0711* (0.036)
Constant	-0.099* (0.047)	-0.548*** (0.124)	-0.293** (0.093)	-0.110* (0.048)	-0.166** (0.0517)
R^2	0.135	0.301	0.191	0.114	0.150
AIC	-297.7	-71.83	-136.3	-290.4	-302.9
BIC	-268.1	-48.24	-110.1	-260.7	-273.3

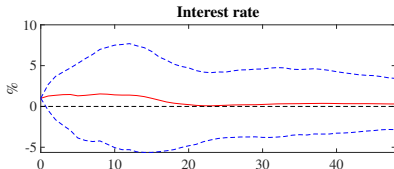
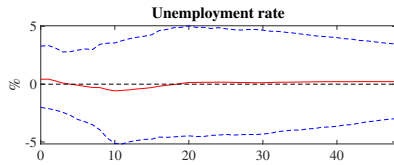
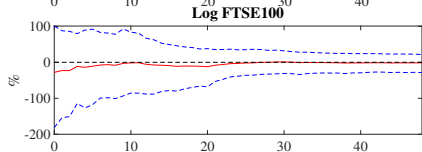
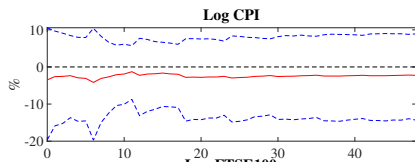
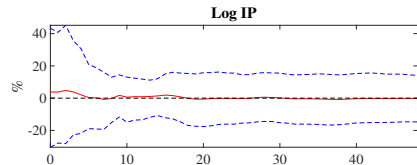
Proxy-SVAR Baseline rule of the full sample



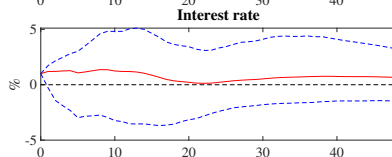
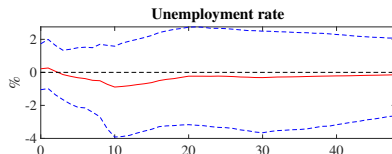
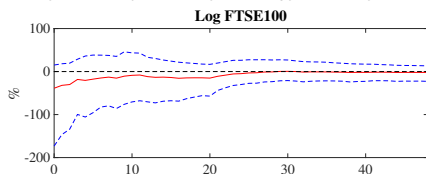
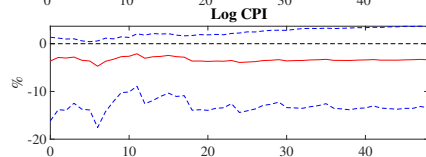
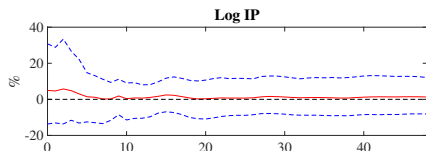
Proxy-SVAR Augmented rule of the full sample



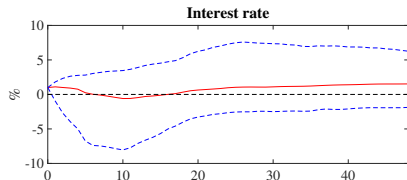
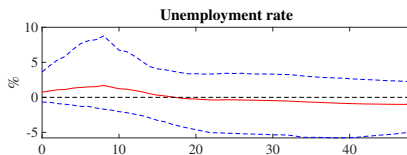
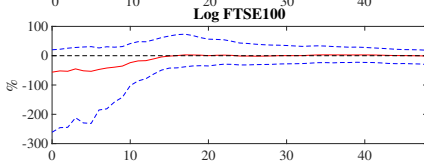
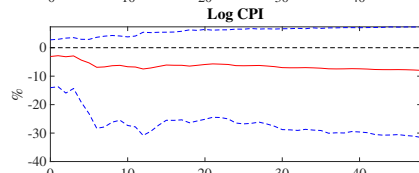
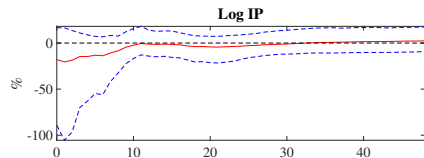
Proxy-SVAR Baseline rule up until March 2009



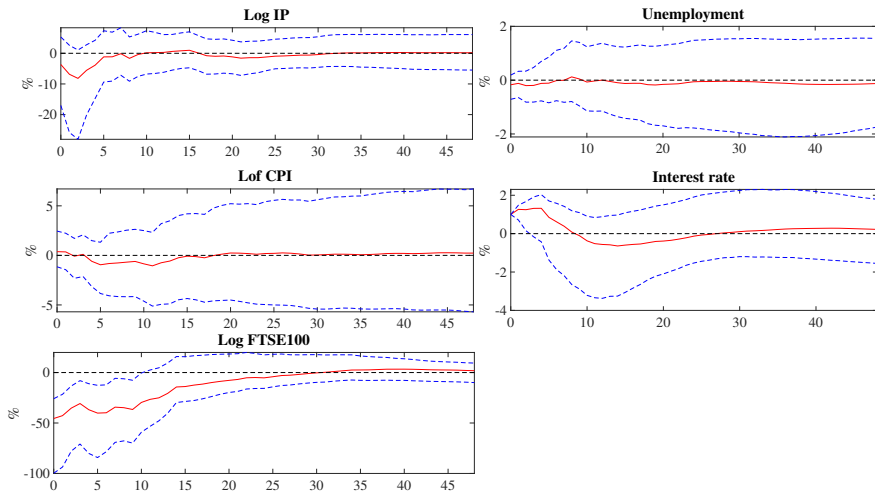
Proxy-SVAR Augmented rule up until March 2009



Proxy-SVAR Baseline rule up until August 2013



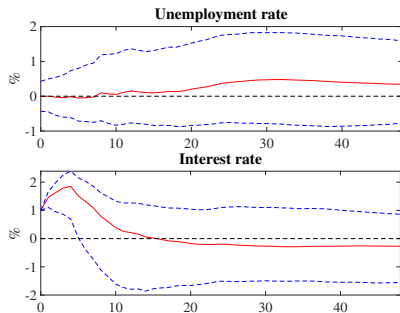
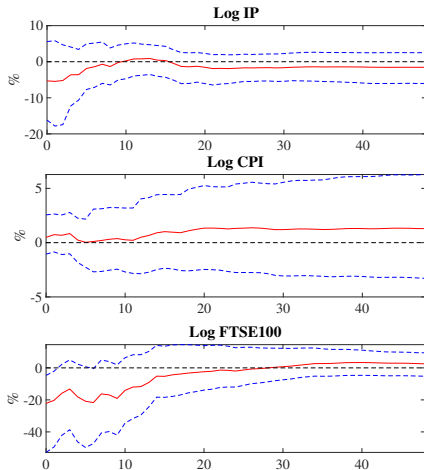
Proxy-SVAR using the interactions



Interest rate Smoothing

	(1)	(2)	(3)	(4)	(5)
i_{t-1}	0.987*** (0.005)	0.994*** (0.011)	0.989*** (0.005)	0.988*** (0.005)	0.980* (0.007)
Inflation Forecast	0.063* (0.027)	0.061* (0.025)	0.067* (0.028)	0.062* (0.027)	0.088* (0.036)
Output Gap	0.014 (0.008)	0.013 (0.008)	0.013 (0.008)	0.014 (0.008)	0.021* (0.010)
MPC Index		-0.053 (0.080)			
Hawk supermajority			-0.047 (0.064)		
Dove supermajority			-0.011 (0.017)		
Inflation Forecast, Hawk supermajority				-0.224 (0.116)	
Output gap, Hawk supermajority				2.494 (1.422)	
Inflation forecast, Dove supermajority					-0.025 (0.016)
Output gap, Dove supermajority					-0.015 (0.016)
R^2	0.996	0.996	0.996	0.996	0.996
AIC	-292.15	-291.08	-289.85	-294.67	-291.97
BIC	-277.33	-272.57	-267.63	-272.44	-269.74

Proxy-SVAR using the Dove interactions



MPC Index is robust under different specifications

	Index Interaction	Dove Interaction
Inflation Forecast	1.13*** (0.096)	1.44*** (0.231)
Output gap	0.48*** (0.042)	0.94*** (0.058)
Inflation, MPC Index	2.22*** (0.073)	
Output gap, MPC Index	0.35** (0.120)	
Inflation, Dove Supermajority		-1.40*** (0.117)
Output gap, Dove Supermajority		-0.53*** (0.094)
Constant	0.88*** (0.221)	0.48*** (0.419)
R^2	0.86	0.61
AIC	816.5	1114.2
BIC	835	1132.8

Table: Taylor Rule Specification with Interaction Terms