

Assessing Central bank communication through monetary policy statements

Results for Colombia, Chile and Peru

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BCRP y PUCP

Disclaimer: The views expressed here are those of the author and do not necessarily represent those of his institutions.

Contents

What do we do in the paper?

Building the dictionary

Measures communication effects

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What do we do in the paper?

1. Build a tone indicator

- ▶ Manually build a dictionary of monetary policy phrases (like **Picault & Renault (2017)**)
- ▶ Based on monetary policy press releases in Colombia, Chile and Peru
- ▶ We classify each phrase into topics: Inflation, activity, mopo, exchange rate, external
- ▶ We label each phrase with a tone signal: hawkish, dovish, neutral
- ▶ We can even qualify the intensity of a phrase
- ▶ All of the above \Rightarrow **monetary policy tone indicator**

What do we do in the paper?

1. Build a tone indicator

- ▶ Big drawback: **Yes, it is subjective**, but we can compare the textual tone indicator with other less subjective tone measures
 1. Take uncontroversial benchmark hawkish and dovish press releases and calculate cosine similarity with all the remaining statements
 2. Apply the Joint Sentiment Topic Model of **Li & He (2009)** and **Lin, He, Everson & Ruger (2012)** to generate the tone

What do we do in the paper?

2. Measure the effects of communication?

- ▶ Run plausible small SVARs with $(\pi^e, \Delta y, tone)$ to study the effect of communication shocks.

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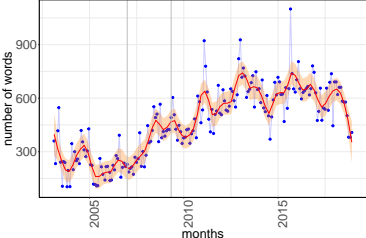
Next steps

Object of study: press releases

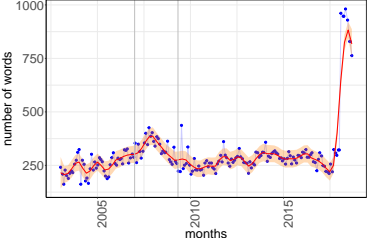
- ▶ For Colombia: February 2003 to December 2018 (187 press releases).
- ▶ For Chile: September 1999 to September 2018 (226 releases)
- ▶ For Peru: February 2001 to December 2018 (215 releases) into account.
- ▶ Since 2018, the Colombian and Chilean central banks switched from 12 to 8 monetary policy meetings per year.

Press release sizes

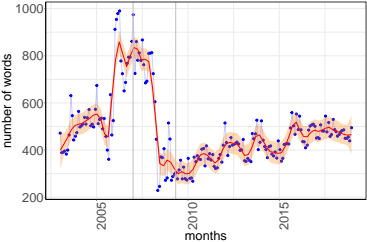
BanRep



BCCH



BCRP

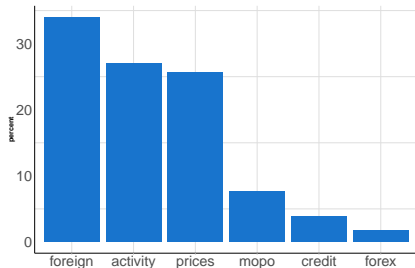


Number of phrases / sentences in lexicon

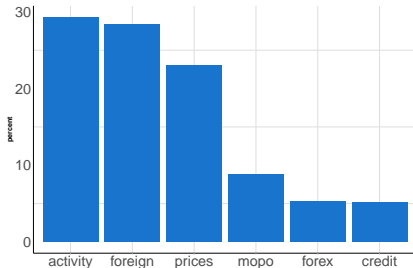
topic	dovish	hawkish	neutral	total
Colombia				
activity	236	288	10	534
credit	34	51	1	86
foreign	297	278	18	593
exchange rate	15	52	1	68
monetary policy	67	87	76	230
inflation	224	226	68	518
total	873	982	174	
Chile				
activity	104	123	3	230
credit	11	21	2	34
foreign	135	151	4	290
exchange rate	2	5	1	8
monetary policy	37	41	5	83
inflation	115	115	6	236
total	404	456	21	
Peru				
activity	52	108	2	162
credit	3	7	1	11
foreign	21	47	3	71
exchange rate	10	5	1	16
monetary policy	16	23	1	40
inflation	81	36	3	120
total	183	226	11	

Phrases by category in the monetary policy lexicon

BanRep - dovish

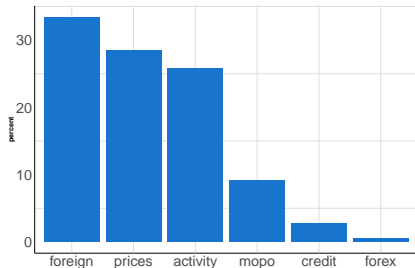


BanRep - hawkish

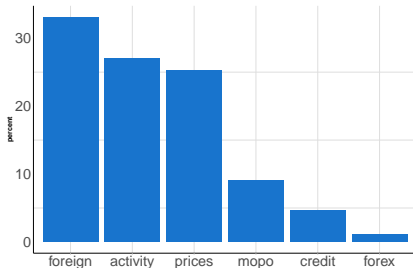


Phrases by category in the monetary policy lexicon

BCCH - dovish

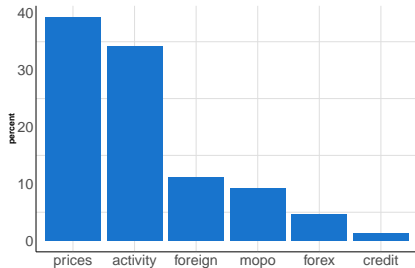


BCCH - hawkish

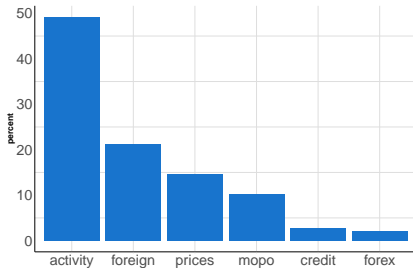


Phrases by category in the monetary policy lexicon

BCRP - dovish

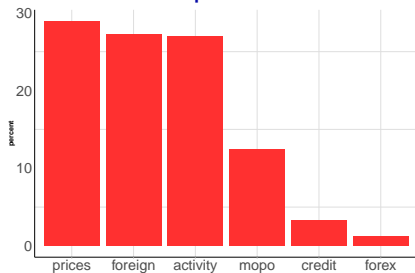


BCRP - hawkish

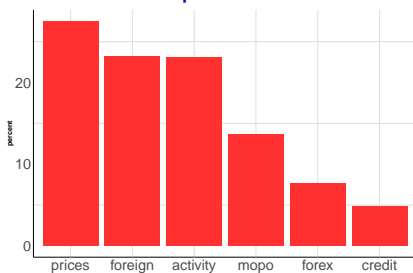


Phrases by category in the monetary policy statements

BanRep - dovish

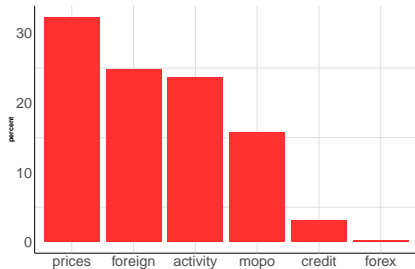


BanRep - hawkish

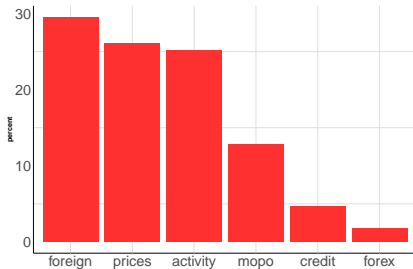


Phrases by category in the monetary policy statements

BCCH - dovish

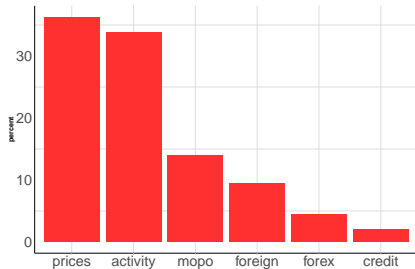


BCCH - hawkish

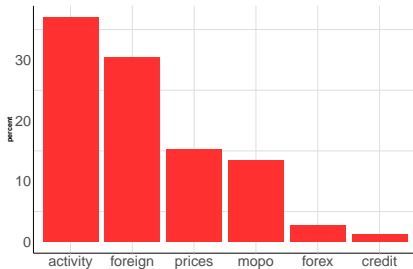


Phrases by category in the monetary policy statements

BCRP - dovish

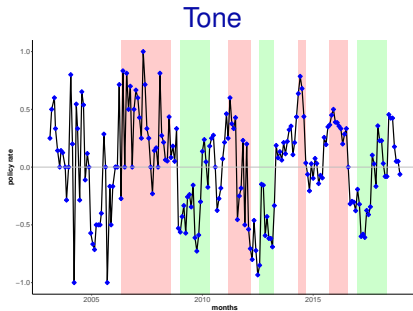
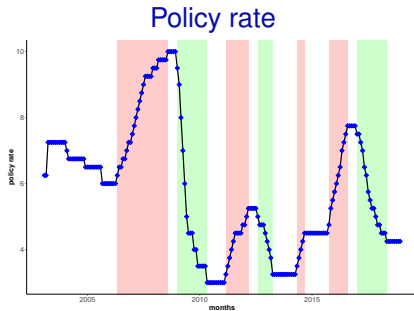


BCRP - hawkish



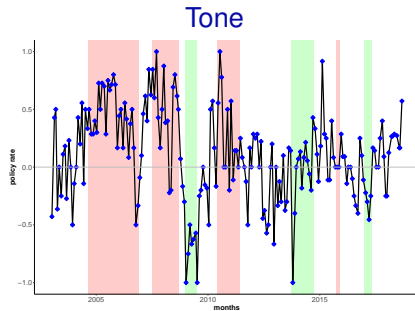
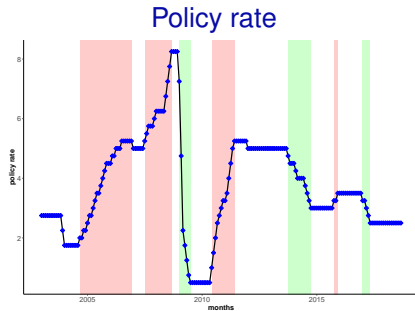
Tone indices

Colombia



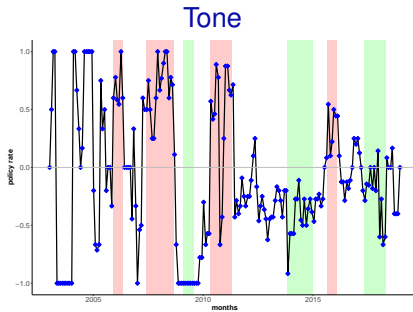
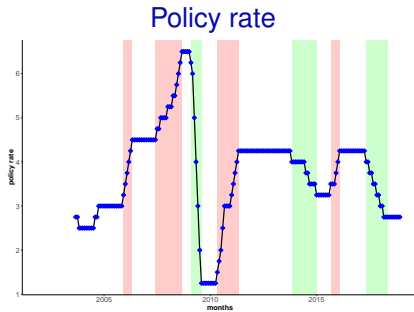
Tone indices

Chile

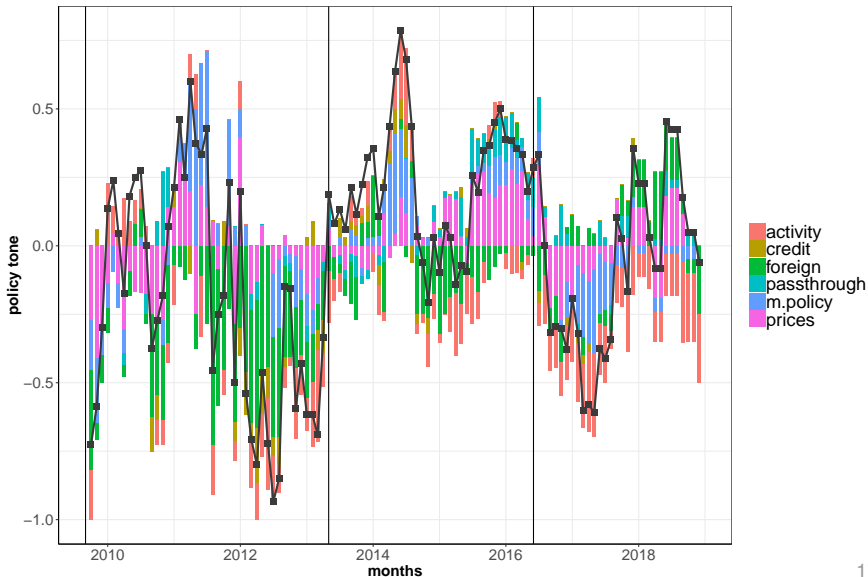


Tone indices

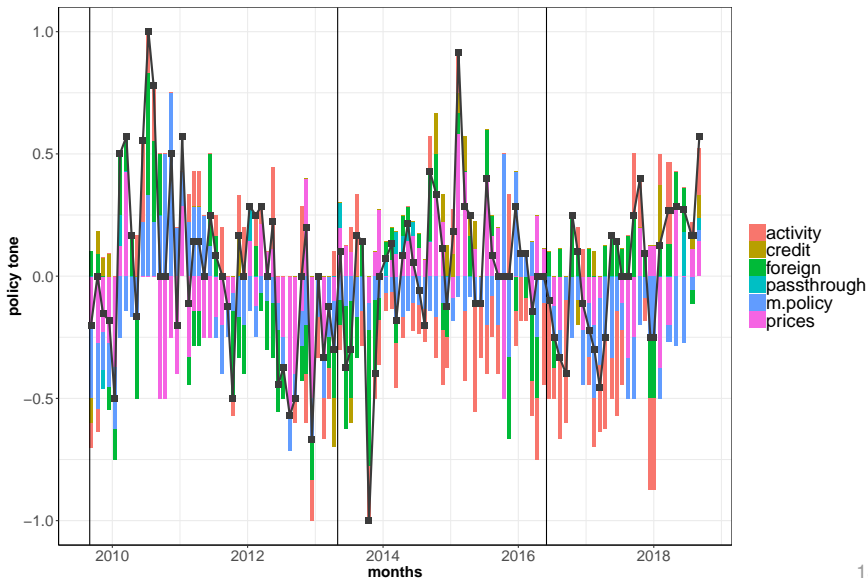
Peru



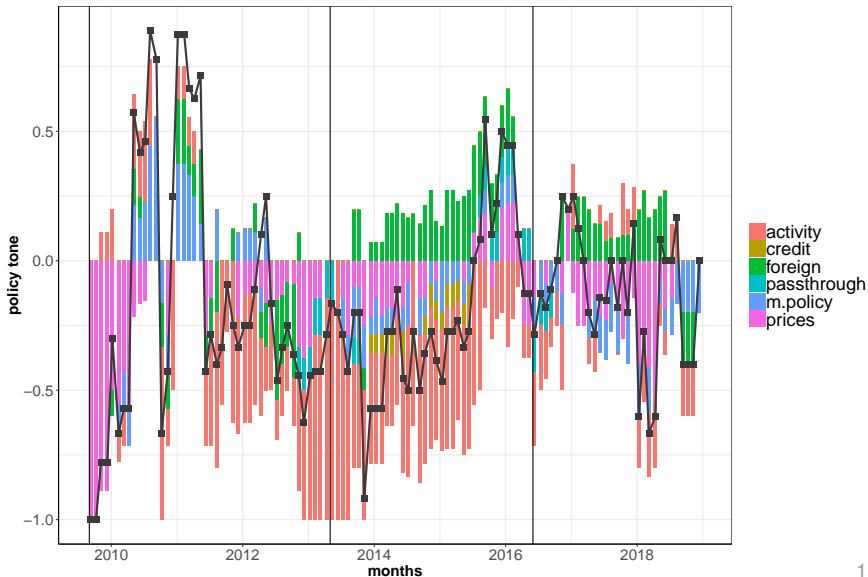
Tone decomposition in BanRep



Tone decomposition in BCCH



Tone decomposition in BCRP



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Two types of SVAR identification

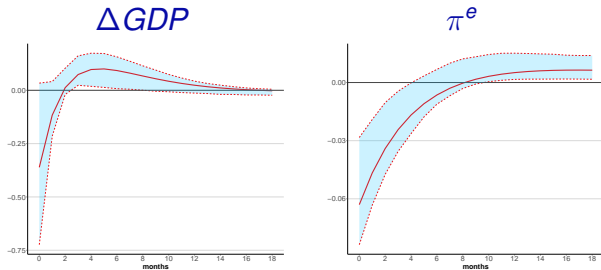
1. Blanchard & Quah:

- A tone shock does not have long run effects on GDP growth
- An inflation expectation shock does not have long run effects on GDP growth

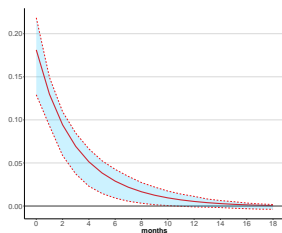
2. Sign restriction: **A hawkish tone shock reduces GDP growth.** We are agnostic about inflation expectation effects. Follow **Rubio-Ramirez, Waggoner & Zha (2010)**

IRF to one s.d shock in tone - BQ

Colombia

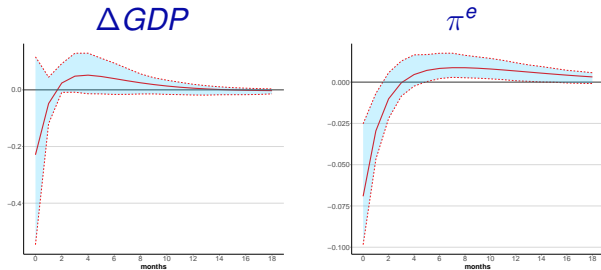


Tone

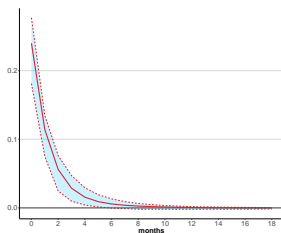


IRF to one s.d shock in tone - BQ

Chile

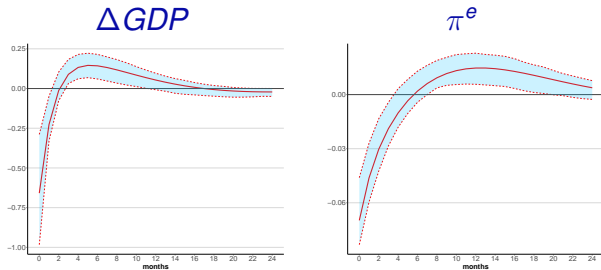


Tone

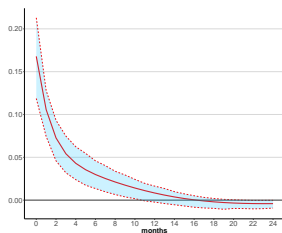


IRF to one s.d shock in tone - BQ

Peru

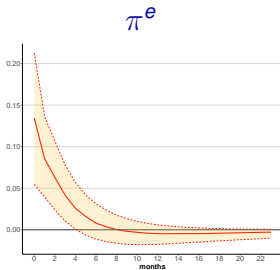
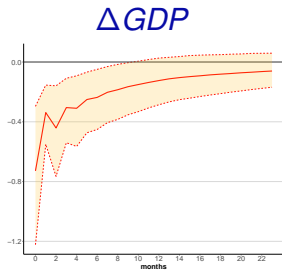


Tone

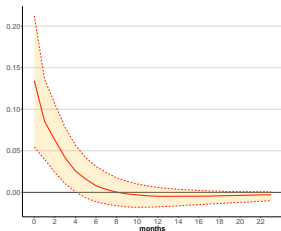


IRF to one s.d shock in tone - RWZ

Colombia

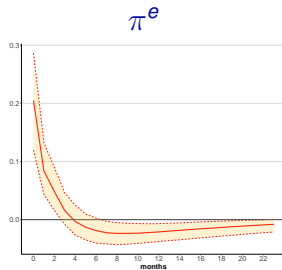
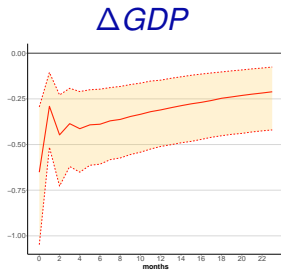


Tone

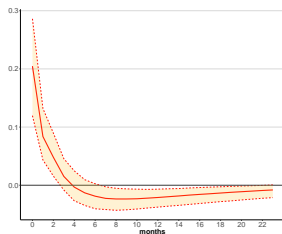


IRF to one s.d shock in tone - RWZ

Chile

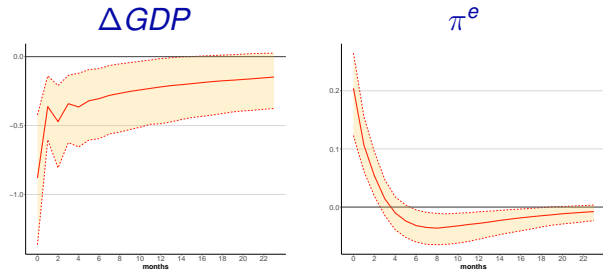


Tone

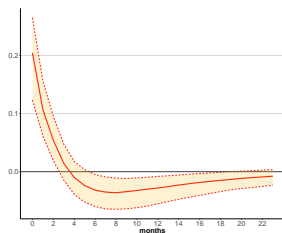


IRF to one s.d shock in tone - RWZ

Peru



Tone



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Next steps

1. Robustness: Textual tone indicator replaced by other less subjective measures
2. Incorporate relevant variables in VAR model on top of the three variables considered
3. ... or use the tone indicators to build external instruments in proxy VAR.

...next steps

Comparing textual tone with similarity tones for Peru



Correlation is 0.6