

Monetary Policy Announcements and Expectations: The Case of Mexico¹

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Work in Progress

CCA Research Network on “Monetary policy frameworks and communication”

March 9, 2021

¹The views in this paper are solely the responsibility of the authors and should not be interpreted as representing the views of the Inter-American Development Bank or Banco de México, their Executive Boards, or their Management.

Introduction

- Central bank's **communication** is a key instrument in the monetary authority's toolkit
- By managing communication, the central bank can manage **expectations**, and improve the effectiveness of monetary policy
- This is not only valid for AEs, but also for EMEs. In EMEs, **inflation targeting** has proved capable of reducing inflation and anchoring inflation expectations (De Mello and Moccero, 2009)

What we do in this paper

- ① We study the effects of monetary policy announcements (MPA) and surprises (observed-expected) on professional forecasters' expectations (inflation, interest rate) for Mexico
 - ▶ Citibanamex Survey on Expectations to professional forecasters, bimonthly, 2010-2017
 - ▶ we study the adjustments on End-of-the-Year (EoY) inflation expectations ($EoY \pi^e$) and expected interest rate ($EoY i^e$) in response to surprises on those variables
 - ▶ we check if expected π dynamics changed in 2016-2017, when large supply shocks occurred
 - ▶ we evaluate how forecasters react to a MPA by studying the difference between the survey right after and right before the day of the MP decision
 - ▶ moreover, we look at the determinants of the changes in the timing of next interest rate movement (*less progress...*)

General results

- Long-term inflation expectations are well anchored
- MPA do matter for π & i expectations dynamics
- For period 2016 – 2017, NER expectations affect short and long term π^e
- Strong supply shocks' effect on π^e , weak demand effect
 - ▶ EME: Higher CPI share of food prices
- MP surprises affect MP expectations

Intuition

- Every new data moves expectations (surprises are very important)
- We compare when there are MPA vs. when there are none
 - ▶ If the determinants of expectations change between the 2 sets of regressions \Rightarrow MPA have an effect on agents' expectations
- \Rightarrow **monetary policy announcements do change the response of short-term expectations, survey participants listen to the central bank**

Layout of the presentation

- ① The Survey
- ② The Data
- ③ Econometric Analysis
- ④ Results
- ⑤ Summary

Survey Main Characteristics

- ① Bi-monthly, Jan-2010 until Dec-2017
- ② 29 participants
- ③ Unique for EMEs: when is the next movement on interest rate going to be? which will be the magnitude? (we named it “call”)
- ④ There are no surveys done to firms or households on macroeconomic variables for Mexico

Survey's questions

	Next Fortnight	End-of-Year	End-of-Next-Year	Next 12 months	Next 2-6 years
π	✓	✓	✓	✓	✓
NER		✓	✓		
i		✓	✓		
g		✓	✓		

and

i : Time of the next move and magnitude & direction

Survey Example Inflation Expectations

Nota Oportuna
5-jul-18

Expectativas de Inflación

Participantes	Junio 2018	Subyacente Junio 2018	Julio 2018	Subyacente Julio 2018	Proximos 12 meses	2018	Subyacente 2018	2019	Subyacente 2019	Inflación Promedio anual 2020-2024
Adinver	0.35	0.27	0.22	0.22	-	4.00	3.30	-	-	-
Banorte	0.48	0.23	0.46	0.33	3.41	4.30	4.00	3.50	3.50	3.50
Bardays	0.31	0.21	0.29	0.19	3.90	4.10	3.70	3.30	3.20	3.20
BBVA Bancomer	0.30	0.22	0.32	0.27	3.96	4.12	3.40	3.60	3.30	3.50
BNP-Paribas	0.36	0.20	0.29	0.22	3.01	4.00	3.40	3.00	3.30	3.00
BX+	0.33	0.19	0.34	0.15	3.97	4.20	3.40	3.60	3.50	3.60
Citibanamex	0.35	0.21	0.30	0.27	3.77	4.00	3.70	4.20	4.10	3.60
CIBanco	0.20	0.18	0.25	0.20	3.95	4.10	3.70	3.80	3.50	3.80
Finamex	0.34	0.20	0.36	0.26	4.00	4.25	3.60	3.75	3.50	3.50
Grupo Bursámetica	0.30	0.19	0.25	0.20	3.81	3.92	3.44	3.47	3.20	3.52
HSBC	0.33	0.22	0.32	0.24	3.81	3.84	3.41	3.70	3.30	3.50
Invex	0.31	0.22	0.38	0.26	4.00	4.30	3.60	3.60	3.20	-
JP Morgan	0.38	0.19	0.30	0.19	3.21	3.80	3.60	3.30	3.14	3.40
MONEX	0.32	0.22	0.35	0.19	3.90	4.00	3.70	3.60	3.50	3.50
Multiva	0.27	0.22	0.29	0.38	3.50	3.90	3.70	3.40	3.50	3.60
Pro Asset Management	0.33	0.20	0.34	0.21	4.48	4.10	3.50	4.20	3.50	3.65
Prognosis	0.28	0.20	0.20	0.19	3.60	3.90	3.30	3.50	3.10	3.50
Santander	0.30	0.20	0.27	0.19	3.56	4.00	3.80	3.60	3.50	3.40
Scotiabank	0.31	0.23	0.36	0.27	4.06	4.19	3.75	3.82	3.29	3.75
Thorne & Associates	0.27	0.25	0.21	0.26	3.89	3.88	3.44	3.60	3.40	3.50
UBS	0.37	0.21	0.26	0.20	3.75	3.80	3.50	3.53	3.45	3.11
Vector	0.31	0.19	0.40	0.22	4.36	4.50	3.80	3.90	3.80	3.80
Promedio	0.32	0.21	0.31	0.23	3.80	4.05	3.58	3.63	3.42	3.50
Mediana	0.32	0.21	0.30	0.22	3.89	4.00	3.60	3.60	3.45	3.50
Dispersión	0.05	0.02	0.06	0.05	0.34	0.18	0.18	0.28	0.23	0.21
Anterior Promedio	0.30	0.27	-	-	3.86	4.05	3.81	3.64	3.43	3.48
Anterior Mediana	0.31	0.27	-	-	3.90	4.00	3.60	3.60	3.47	3.50
Máximo	0.48	0.27	0.46	0.38	4.48	4.50	4.00	4.10	3.80	
	Banorte	Adinver	Banorte	Multiva	Pro Asset Management	Vector	Banorte	Citibanamex / Pro Asset Management	Citibanamex	CIBanco / Vector
Minimo	0.20	0.18	0.20	0.15	3.01	3.80	3.30	3.00	3.10	3.00
	CIBanco	CIBanco	Prognosis	BX+	BNP-Paribas	JP Morgan / UBS	Adinver / Prognosis	BNP-Paribas	Prognosis	BNP-Paribas

Fuente: Citibanamex.

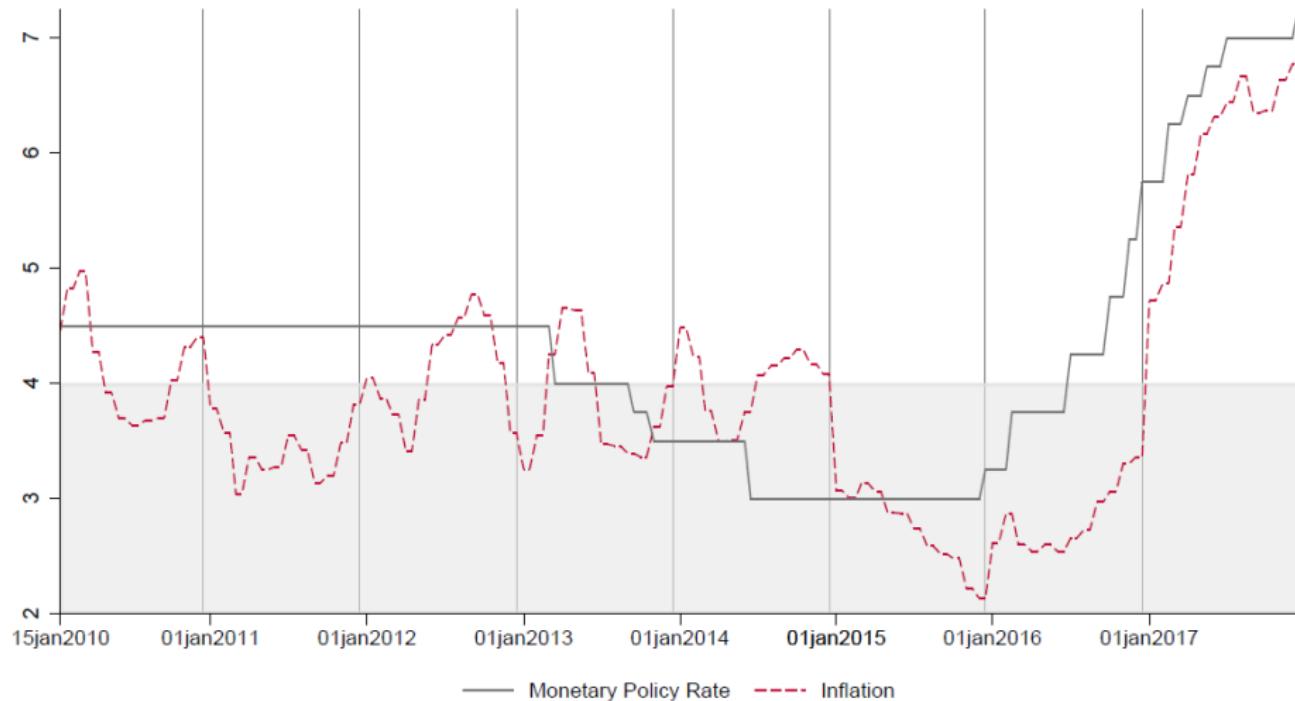
Survey Example Financial Variables and GDP

Nota Oportuna
5-jul-18

Expectativas Variables Financieras y PIB

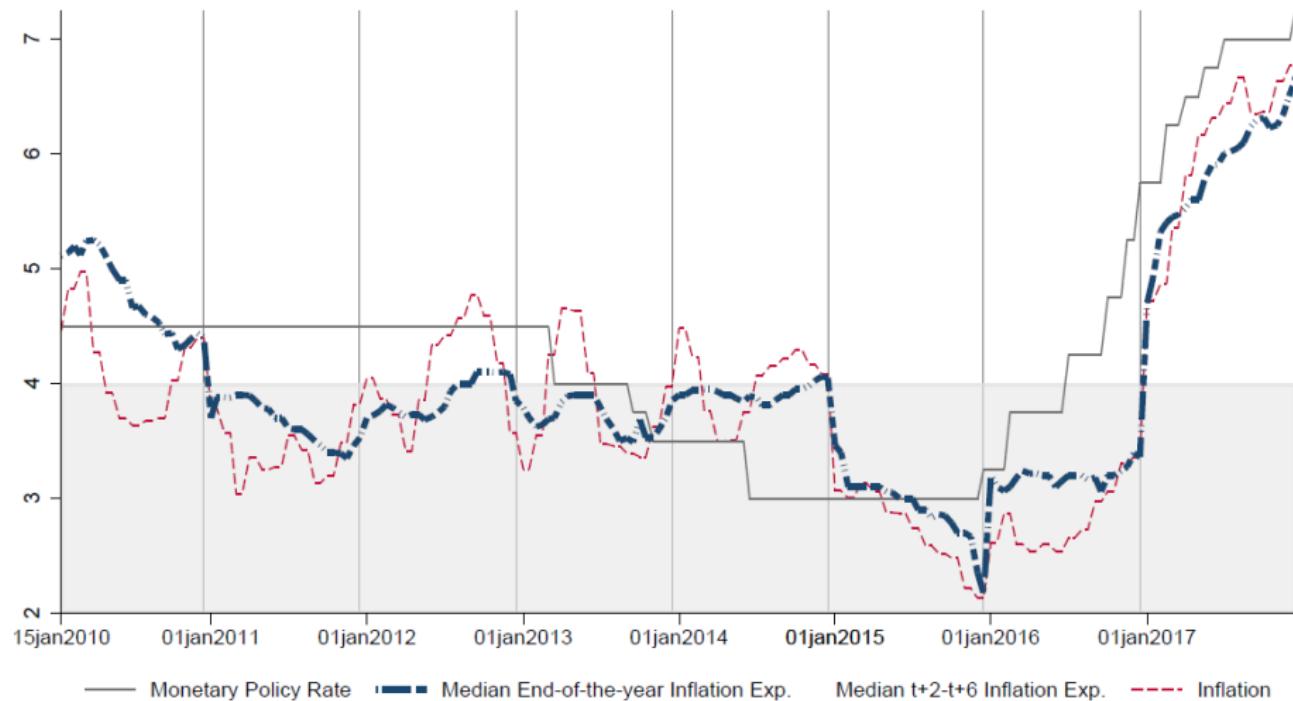
Participantes	Próximo movimiento	Magnitud y Dirección	Tasa de Fondeo	Tasa de Fondeo	Nivel del Tipo de Cambio	Nivel del Tipo de Cambio	PIB 2018	PIB 2019
			Bancario 2018	Bancario 2019	2018	2019		
			Cierre	Cierre	Cierre	Cierre		
AdInver	dic-18	-0.25	7.50	-	19.00	-	2.3	-
Banorte	-	-	7.75	7.75	18.60	-	2.5	1.8
Barclays	jun-19	-0.25	7.75	6.50	22.00	22.00	2.7	1.9
BBVA Bancomer	abr-19	-0.25	7.75	7.00	18.80	18.00	2.8	2.0
BNP-Paribas	abr-19	-0.25	7.75	6.25	18.00	18.00	1.5	3.0
BX+	-	-	8.00	7.25	18.75	18.25	2.2	2.2
Citibanamex	jun-19	-0.25	7.75	7.00	20.00	19.10	2.3	1.9
CIBanco	oct-18	0.25	8.00	7.75	20.20	19.20	2.2	2.5
Finamax	oct-18	0.25	8.00	-	18.90	18.90	2.1	1.6
Grupo Bursámerica	dic-18	0.25	8.00	8.00	19.14	19.18	2.2	2.0
HSBC	ago-18	0.25	8.00	6.50	19.50	19.50	2.5	2.7
Invea	-	-	7.50	-	18.60	-	2.1	2.3
JP Morgan	ago-18	0.25	8.00	7.00	19.50	18.50	2.2	2.4
MONEX	-	-	7.75	7.00	19.00	18.50	2.0	2.2
Multiva	dic-18	-0.25	7.50	-	19.00	-	2.0	2.2
Pro Asset Management	oct-18	0.25	8.00	7.00	20.50	-	2.1	2.2
Prognosis	dic-18	-0.25	7.50	7.25	18.00	18.00	2.3	2.5
Santander	dic-18	-0.25	7.50	6.75	18.90	18.80	2.4	2.5
Scotiabank	oct-18	0.25	8.00	8.00	20.20	20.48	2.1	2.5
Thorne & Associates	abr-19	-0.25	7.75	7.25	19.10	18.60	2.2	2.3
UBS	nov-18	-0.25	-	6.00	18.75	19.25	2.2	2.6
Vector	-	0.25	8.25	7.25	19.20	18.70	1.5	1.9
Promedio	dic-18	-0.03	7.81	7.08	19.26	19.00	2.2	2.2
Mediana	dic-18	-0.25	7.75	7.00	19.00	18.80	2.2	2.2
Dispersión	-	0.26	0.22	0.56	0.89	1.00	0.29	0.34
Anterior Promedio	ago-18	0.20	7.68	6.88	19.37	18.99	2.2	2.3
Anterior Mediana	jul-18	0.25	7.75	7.00	19.50	18.85	2.2	2.3
Máximo	jul-19	0.25	8.25	8.00	22.00	22.00	2.70	3.00
			Citibanamex	Varios	Vector	Grupo Bursámerica / Scotiabank	Barclays	Barclays
Minimo	ago-18	-0.25	7.50	6.00	18.00	18.00	1.50	1.60
			Citibanamex /				BBVA	

Data Inflation, monetary policy rate, and π expectations



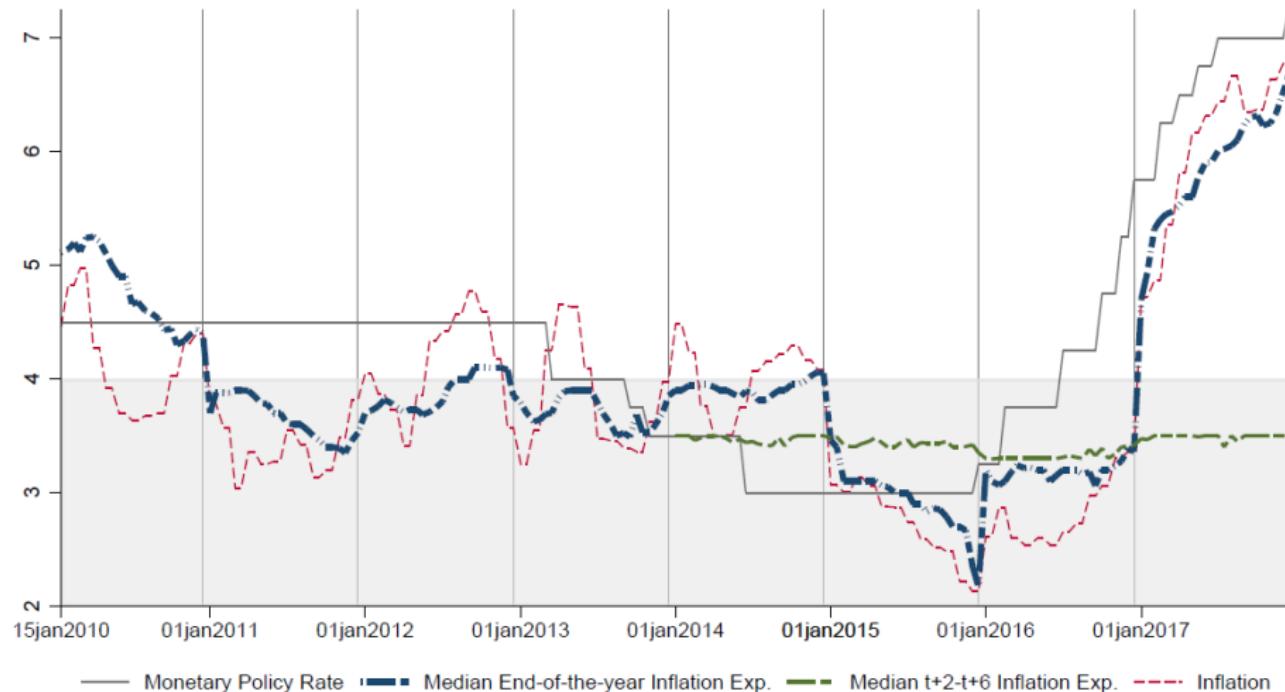
Source: Bank of Mexico and Encuesta Citibanamex de Expectativas

Data Inflation, monetary policy rate



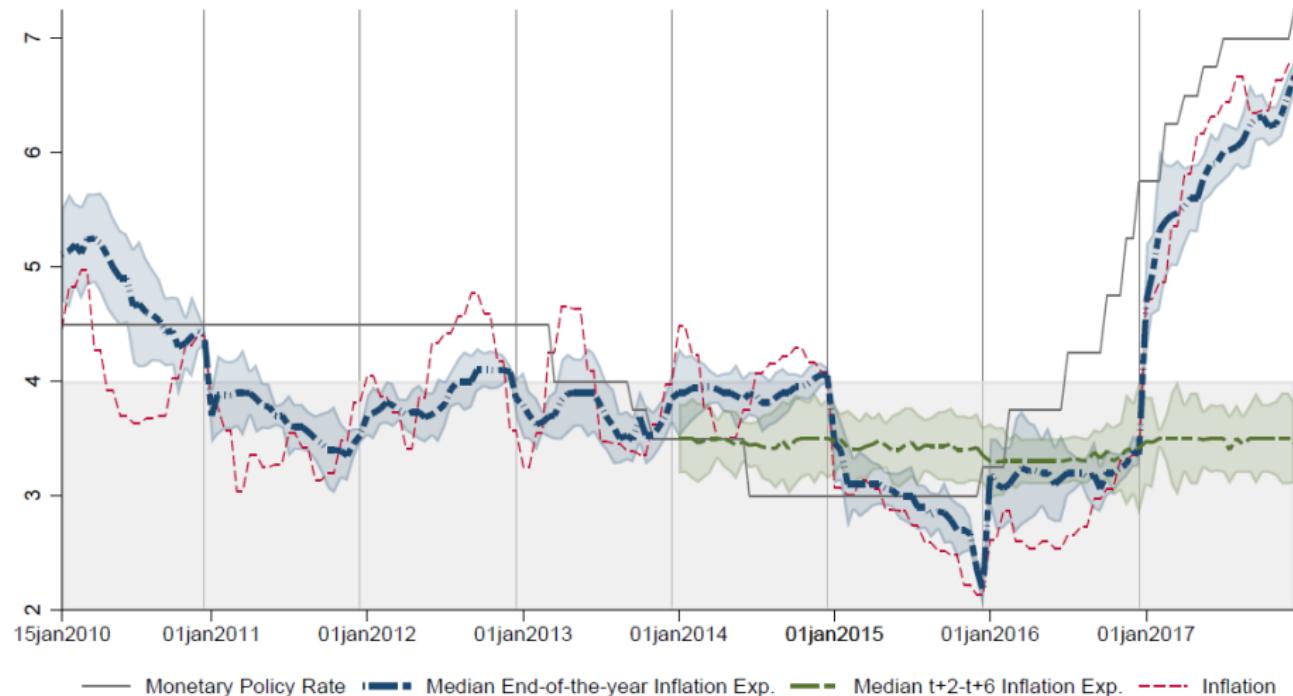
Source: Bank of Mexico and Encuesta Citibanamex de Expectativas

Data Inflation, monetary policy rate, and π expectations



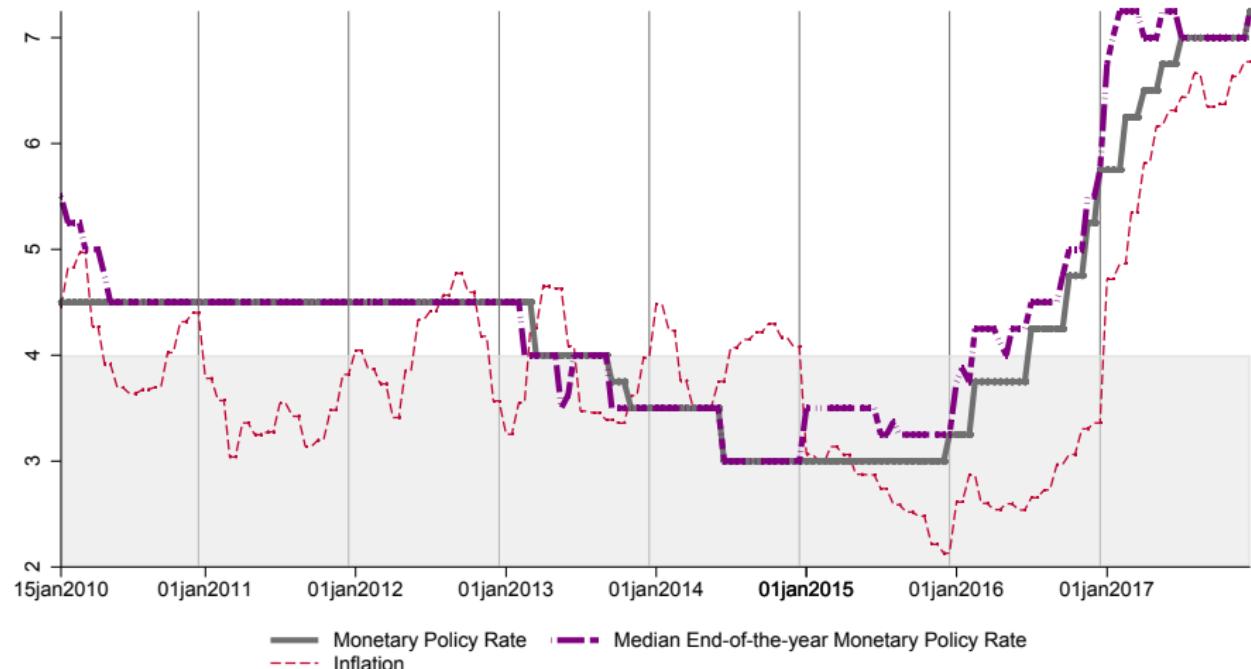
Source: Bank of Mexico and Encuesta Citibanamex de Expectativas

Data Inflation, monetary policy rate, and π expectations



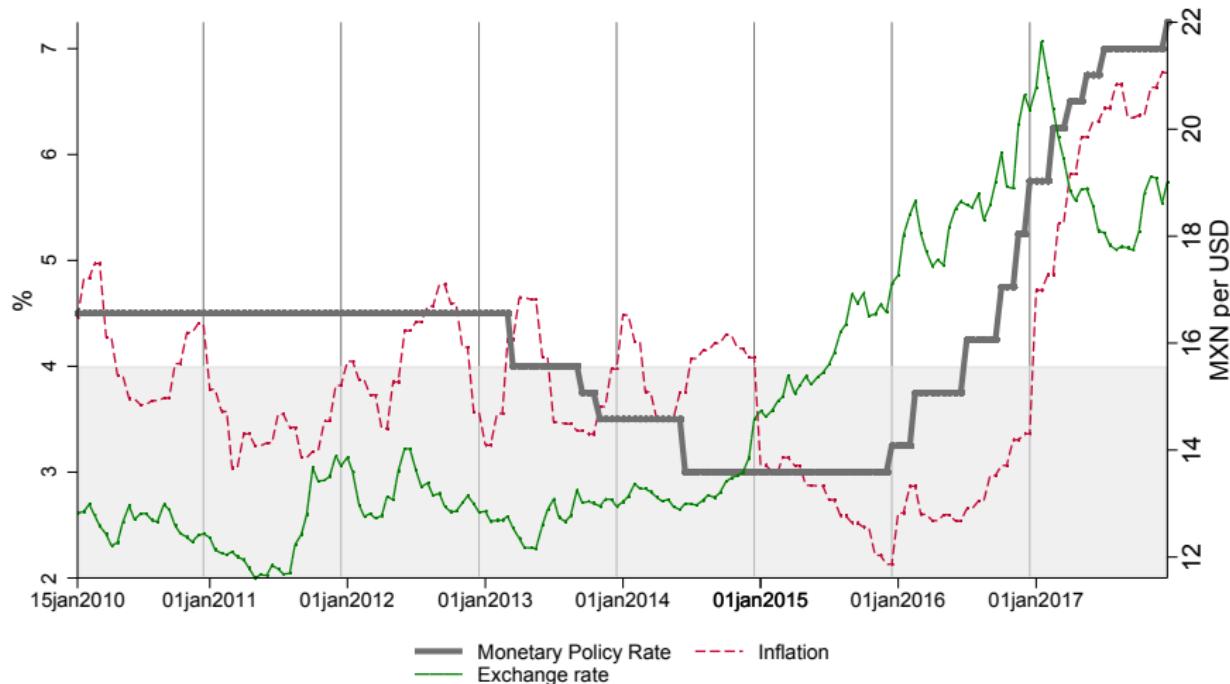
Source: Bank of Mexico and Encuesta Citibanamex de Expectativas

Data Inflation, monetary policy rate, and r expectations



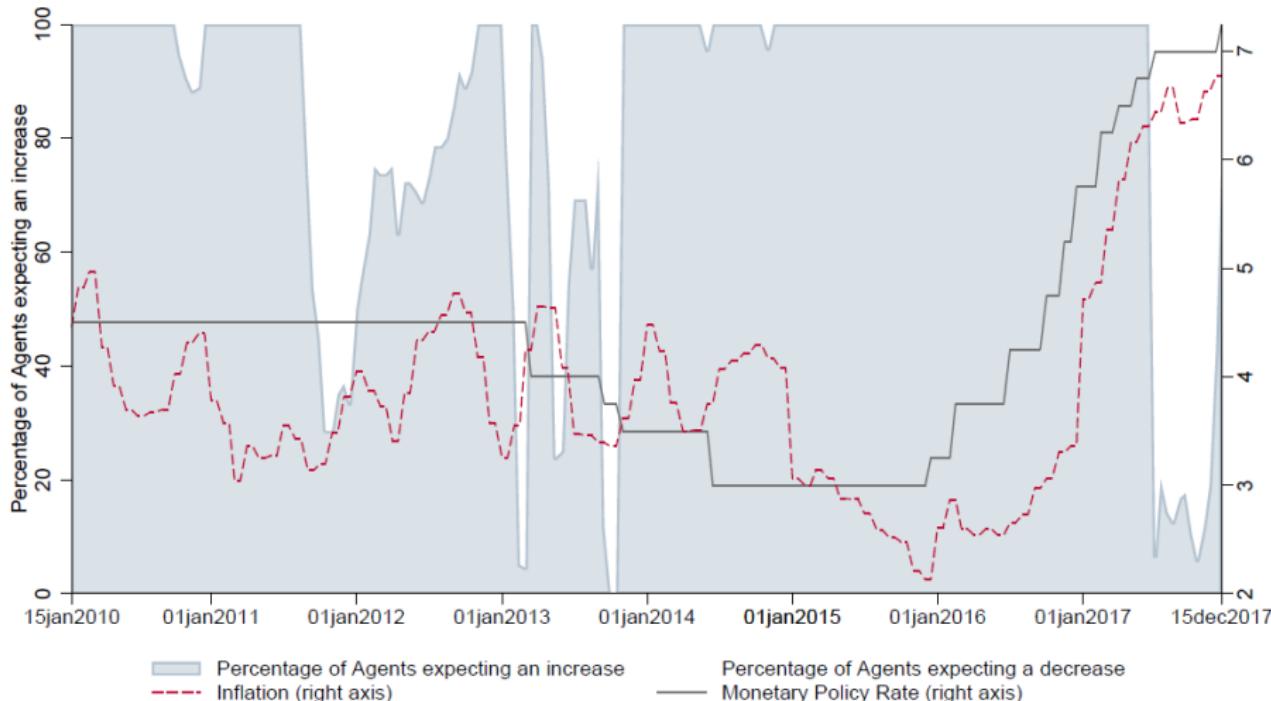
Source: Bank of Mexico and Encuesta Citibanamex de Expectativas

Data Inflation, monetary policy rate, and NER



Source: Bank of Mexico and Encuesta Citibanamex de Expectativas

Data Inflation, monetary policy rate, and next Δr



Source: Bank of Mexico and Encuesta Citibanamex de Expectativas

Econometric Analysis MPA Effects - Specification

Fixed-effect regressions

- What are the effects of monetary policy announcements on the adjustments of professional forecasters' expectations?
- Changes in inflation expectations, short and long term

$$\begin{aligned}\Delta E_{it} \pi^{\text{end } y} = & \beta_0 + \beta_1 \pi_{it-1}^{\text{surp}} + \beta_2 r_{it-1}^{\text{surp}} + \beta_3 \Delta E_{it} (\text{GDP}^{\text{end } y}) \\ & + \beta_4 \Delta E_{it} (\text{NER}^{\text{end } y}) + \beta_5 \sum_{\text{jan}}^{t-1} \Delta r \\ & + \beta_6 \pi_{t-1}^m + m + y + p_i + \varepsilon_{it}\end{aligned}\tag{1}$$

$$\begin{aligned}\Delta E_{it} \pi^{y+2, y+6} = & \beta_0 + \beta_1 \pi_{it-1}^{\text{surp}} + \beta_2 r_{it-1}^{\text{surp}} + \beta_3 \Delta E_{it} (\text{GDP}^{\text{end } y+1}) \\ & + \beta_4 \Delta E_{it} (\text{NER}^{\text{end } y+1}) + \beta_5 \Delta E_{it} (r^{\text{end } y+1}) + \beta_6 \sum_{\text{jan}}^{t-1} \Delta r \\ & + \beta_7 \pi_{t-1}^m + m + y + p_i + \varepsilon_{it}\end{aligned}\tag{2}$$

Econometric Analysis MPA Effects - Specification

Fixed-effect regressions

- Changes in monetary policy rate expectations, end-of-the-year

$$\begin{aligned}\Delta E_{it} r^{\text{end } y} = & \beta_0 + \beta_1 \pi_{it-1}^{\text{surp}} + \beta_2 r_{it-1}^{\text{surp}} + \beta_3 \Delta E_{it} (\text{GDP}^{\text{end } y}) \\ & + \beta_4 \Delta E_{it} (\text{NER}^{\text{end } y}) + \beta_5 \Delta E_{it} (\pi^{\text{end } y}) + \beta_6 \sum_{\text{jan}}^{t-1} \Delta r \\ & + \beta_7 \pi_{t-1}^m + m + y + p_i + \varepsilon_{it}\end{aligned}\tag{3}$$

Econometric Analysis MPA Effects - Specification

Fixed-effect regressions

For expected increases on interest rates (85% of sample)

	Time of next movement	ΔE_{it} (r call)
Survey A (August 5)	December 2018	-2 (advancement of 2 months)
Survey B (August 20)	October 2018	

- Changes in when the next monetary policy movement will be (months ahead)

$$\begin{aligned}\Delta E_{it}(\text{r call}) &= \beta_0 + \beta_1 \pi_{it-1}^{\text{surp}} + \beta_2 r_{it-1}^{\text{surp}} + \beta_3 \Delta E_{it}(\text{GDP}^{\text{end y}}) \\ &+ \beta_4 \Delta E_{it}(\text{NER}^{\text{end y}}) + \beta_5 \Delta E_{it}(\pi^{\text{end y}}) + \beta_6 \sum_{\text{jan}}^{t-1} \Delta r \\ &+ \beta_7 \pi_{t-1}^{\text{annualized}} + m + y + p_i + \varepsilon_{it}\end{aligned}\quad (4)$$

Layout of Main Results

① Inflation Expectations

- ① EoY vs. LR with MPA
- ② EoY MPA vs. NoMPA
- ③ Differences across periods

② Reference Rate

- ① EoY MPA vs. NoMPA
- ② Differences across periods

③ Change in “Call”

Results EoY Inflation Expectations with MPA

Dependent Variable: $\Delta E_{it} (\pi^{\text{end y}})$		
	(1)	(2)
Sample:	All	MPA
π_{t-1}^{surp}	0.3820*** (0.0538)	0.3520** (0.1610)
r_{t-1}^{surp}	0.0799** (0.0253)	0.1180*** (0.0364)
$\Delta E_{it} (\text{GDP}^{\text{end y}}, \text{LR})$	0.0436 (0.0268)	-0.0981 (0.0742)
$\Delta E_{it} (\text{NER}^{\text{end y}}, \text{LR})$	0.0028 (0.0017)	0.0073** (0.0028)
$\sum_{\text{jan}}^{t-1} \Delta r$	-0.0013 (0.0119)	-0.0159 (0.0242)
$\pi_{t-1}^{\text{monthly}}$	0.0787** (0.0286)	0.1020 (0.1600)
Constant	-0.0058 (0.0237)	-0.2880*** (0.0718)
Year FE	Yes	Yes
Month FE	Yes	Yes
Participant FE	Yes	Yes
Observations	1,104	302
R-squared	0.203	0.318
Number of banks	29	24

Robust standard errors in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

All coefficients have the expected signs. Surprises (monetary and inflationary) increase EoY inflation expectations. Not very different across periods.

Results EoY and LR Inflation Expectations with MPA

Dependent Variable:	$\Delta E_{it} (\pi^{\text{end y}})$	$\Delta E_{it} (\pi^{\text{end y, t+2,t+6}})$		
Sample:	(1) All	(2) Latest	(3) All	(4) Latest
π_{t-1}^{surp}	0.3820*** (0.0538)	0.3520** (0.1610)	0.0480 (0.0329)	0.0264 (0.0632)
r_{t-1}^{surp}	0.0799** (0.0253)	0.1180*** (0.0364)	-0.0227 (0.0272)	-0.0200 (0.0331)
$\Delta E_{it} (\text{GDP}^{\text{end y, LR}})$	0.0436 (0.0268)	-0.0981 (0.0742)	-0.0011 (0.0320)	-0.0309 (0.0460)
$\Delta E_{it} (\text{NER}^{\text{end y, LR}})$	0.0028 (0.0017)	0.0073** (0.0028)	0.0027 (0.0019)	0.0047** (0.0018)
$\sum_{\text{jan}}^{t-1} \Delta r$	-0.0013 (0.0119)	-0.0159 (0.0242)	0.0307 (0.0210)	0.0289 (0.0268)
$\pi_{t-1}^{\text{monthly}}$	0.0787** (0.0286)	0.1020 (0.1600)	-0.0214 (0.0609)	-0.0743 (0.1110)
Constant	-0.0058 (0.0237)	-0.2880*** (0.0718)	0.0330 (0.0221)	0.0250 (0.0575)
Year FE	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes
Participant FE	Yes	Yes	Yes	Yes
Observations	1,104	302	500	273
R-squared	0.203	0.318	0.146	0.238
Number of banks	29	24	24	24

Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Short-run variables do not affect LR inflation expectations!!

Results EoY Inflation Expectations MPA vs. NoMPA

	Dependent Variable: $\Delta E_{it} (\pi^{\text{end y}})$	
	(1) MPA	(2) No MPA
Sample:	All	All
π_{t-1}^{surp}	0.3820 *** (0.0538)	0.3390 *** (0.0560)
r_{t-1}^{surp}	0.0799 ** (0.0253)	
$\Delta E_{it} (\text{GDP}^{\text{end y}, \text{LR}})$	0.0436 (0.0268)	-0.0106 (0.0264)
$\Delta E_{it} (\text{NER}^{\text{end y}, \text{LR}})$	0.0028 (0.0017)	0.0066 ** (0.0030)
$\sum_{\text{jan}}^{t-1} \Delta r$	-0.0013 (0.0119)	-0.1460 *** (0.0127)
$\pi_{t-1}^{\text{monthly}}$	0.0787 ** (0.0286)	0.2550 *** (0.0285)
Constant	-0.0058 (0.0237)	-0.1110 *** (0.0224)
Year FE	Yes	Yes
Month FE	Yes	Yes
Participant FE	Yes	Yes
Observations	1,104	2,283
R-squared	0.203	0.264
Number of banks	29	29

Robust standard errors in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$ Time comparison

No MPA: monthly inflation more relevant and cumulative changes in reference rate decrease end-of-the-year expected inflation. MPA seem to contain important information.

Results: Inflation Expectations

- EoY $\Delta\pi^e$ are affected by participant's inflation surprises and adjustments in $EoY NER^e$ expectations in latest period (supply side effects)
- MP surprises affect EoY $\Delta\pi^e$: MP surprises may reveal information regarding central bank inflation projections adjustments...
- Several cyclical variables (including π surprises) affect EoY $\Delta\pi^e$ but NO LT $\Delta\pi^e \Rightarrow$ **anchored** $\Delta\pi^e$
- $EoY NER^e$ are important in the latest period (even for LT $\Delta\pi^e$)
- Changes in expected growth do not affect EoY $\Delta\pi^e$ (weak demand channel)
- MPA vs no MPA: EoY $\Delta\pi^e$ react more to other variables when no MPA. i.e. participants seem to extract valuable information from MPA

Results EoY Monetary Policy Rate MPA

Dependent Variable: $\Delta E_{it} (r^{\text{end } y})$		
	(1)	(2)
Sample:	MPA	
π_{t-1}^{surp}	-0.0226 (0.0376)	-0.3430 (0.2590)
r_{t-1}^{surp}	0.5840 *** (0.0611)	0.5290 *** (0.1070)
$\Delta E_{it} (\text{GDP}^{\text{end } y})$	-0.0102 (0.0213)	-0.0220 (0.0873)
$\Delta E_{it} (\text{NER}^{\text{end } y})$	0.0167 *** (0.0023)	0.0208 *** (0.0050)
$\Delta E_{it} (\pi^{\text{end } y})$	0.1310 *** (0.0388)	0.3070 *** (0.1090)
$\sum_{\text{jan}}^{t-1} \Delta r$	0.0762 *** (0.0163)	0.1240 ** (0.0520)
$\pi_{t-1}^{\text{monthly}}$	0.0325 (0.0382)	0.1390 (0.2310)
Constant	-0.1030*** (0.0264)	0.0816 (0.1620)
Year FE	Yes	Yes
Month FE	Yes	Yes
Participant FE	Yes	Yes
Observations	1,096	302
R-squared	0.431	0.495
Number of banks	29	24

Robust standard errors in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Results EoY Monetary Policy Rate MPA vs. NoMPA

Dependent Variable: $\Delta E_{it} (r^{\text{end}} y)$		
Sample:	(1) MPA All	(2) No MPA All
π_{t-1}^{surp}	-0.0226 (0.0376)	-0.1710*** (0.0344)
r_{t-1}^{surp}	0.5840*** (0.0611)	
$\Delta E_{it} (\text{GDP}^{\text{end}} y)$	-0.0102 (0.0213)	0.0248 (0.0175)
$\Delta E_{it} (\text{NER}^{\text{end}} y)$	0.0167*** (0.0023)	0.0033 (0.0022)
$\Delta E_{it} (\pi^{\text{end}} y)$	0.1310*** (0.0388)	0.2740*** (0.0506)
$\sum_{\text{jan}}^{t-1} \Delta r$	0.0762*** (0.0163)	-0.0741*** (0.0073)
$\pi_{t-1}^{\text{monthly}}$	0.0325 (0.0382)	0.0007 (0.0189)
Constant	-0.1030*** (0.0264)	0.1630*** (0.0179)
Year FE	Yes	Yes
Month FE	Yes	Yes
Participant FE	Yes	Yes
Observations	1,096	2,261
R-squared	0.431	0.329
Number of banks	29	29

Robust standard errors in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Results: Interest Rate Expectations

- EoY Δr^e are affected by participant's adjustments in EoY $\Delta\pi^e$ and EoY NER^e : higher π^e or NER, higher rate
- CB more hawk in the past, CB more hawk in the future
 - ▶ MP surprises increase expected rate
 - ▶ Higher observed rates, higher expected ones
- MPA vs no MPA (not much difference)
 - ▶ Changes on EoY $\Delta\pi^e$ becomes more important when no MPA
 - ▶ Inflation surprises significant with the wrong sign!(latest period problem)
 - ▶ Changes in EoY ER affect expected rate only when MPA

Results Change in Policy Rate Call

Dependent Variable: Δ Policy Rate Call		
	(1)	(2)
π_{t-1}^{surp}	-1.4170 (0.9760)	-0.4260 (0.5260)
r_{t-1}^{surp}	-1.9020** (0.8010)	-1.9480*** (0.6650)
$\Delta E_{it} (\text{GDP}^{\text{end y}})$	-0.4070 (0.5450)	-0.0837 (0.2170)
$\Delta E_{it} (\text{NER}^{\text{end y}})$	-0.2070*** (0.0474)	-0.0312 (0.0228)
$\Delta E_{it} (\pi^{\text{end y}})$	-0.8990 (0.7530)	-0.9920*** (0.3140)
$\sum_{\text{jan}}^{t-1} \Delta r$	2.1300*** (0.3610)	0.6990*** (0.2080)
$\pi_{t-1}^{\text{annualized}}$	-2.4960*** (0.2850)	-0.9130*** (0.1430)
Year FE	Yes	Yes
Month FE	Yes	Yes
Participant FE	Yes	Yes
Observations	918	2,476
R-squared	0.367	0.098
Number of banks	29	29

Notes: Column (1) includes the surveys that had a monetary policy announcement right before, while column (2) includes the complete set of surveys. Both columns include the surveys from Jan-2010 until Dec-2017. The dependent variable in both specifications is changes in the policy rate call, but only when the professional forecasters expect an increase in the rate.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Time comparison

Timing of next interest rate move: CALL

- What factors led to an “advance” on interest rate increases?
 - ▶ Monetary policy surprises (CB more hawk in the past, more hawk in the future)
 - ▶ Expectation of a more depreciated (less appreciated) exchange rate
 - ▶ Higher observed inflation
 - ▶ Higher expected inflation (full sample)
- What factors led to a “delay” on interest rate increases?
 - ▶ Higher observed interest rates

Some conclusions

- Long term inflation expectations are well anchored
- Participants obtain valuable information from MPA
- In last period, expectations of NER matter even for LT inflation expectations
- Demand shocks effect seems to be weak, strong supply shocks effect
- MP surprises and past rates reveal information regarding monetary authorities' reaction function

Policy Implications

- MP Authorities may have room to improve communication (reaction function)
- Good to publish point projections por π
- Monitor effects of NEER on π^e (especially LT)

Additional Table

Table: Description of Variables in Regressions with Monetary Policy Decisions

Name	Symbol	Definition	Source	Regressions		
				$\Delta E(\pi)$	$\Delta E(r)$	ΔCall
Inflation Surprise	π_{t-1}^{surp}	Observed inflation minus participant's inflation expectation	C.S. INEGI	✓	✓	✓
Monetary Policy Surprise	r_{t-1}^{surp}	Observed policy rate minus participant's expected policy rate	C.S. Banco de México	✓	✓	✓
$\Delta \text{GDP EoY t or t+1}$	$\Delta E_{it}(\text{GDP}^{\text{end y}})$	Change in end-of-(next)-year GDP expectations (after - before)	Citibanamex Survey	✓	✓	✓
$\Delta \text{NER EoY t or t+1}$	$\Delta E_{it}(\text{NER}^{\text{end y}})$	Change in end-of-(next)-year exchange rate expectations (after - before)	Citibanamex Survey	✓	✓	✓
$\Delta \pi \text{ EoY t or t+1}$	$\Delta E_{it}(\pi^{\text{end y}})$	Change in end-of-(next)-year inflation expectations (after - before)	Citibanamex Survey	D.V.	✓	✓
$\Delta E(\text{Policy Rate})$	$\Delta E_{it}(r^{\text{end y}})$	Change in end-of-(next)-year policy rate expectations (after - before)	Citibanamex Survey	-	D.V.	✓
Acc. Δ in Policy Rate	$\sum_{\text{jan}}^{t-1} \Delta r$	Accumulated changes in the policy rate during current year up to time t	Banco de México	✓	✓	✓
Annual π_{t-1} Rate	$\pi_{t-1}^{\text{annualized}}$	Lag of the m.a. of the last 3 monthly inflation rates (y-o-y)	INEGI	✓	✓	✓
$\Delta \text{Policy Rate Call}$	$\Delta E_{it}(\text{r call})$	Change in call for next policy rate movement in months (t - t-1)	Citibanamex Survey	-	-	D.V.

Additional Table

Table: Summary Statistics of Variables in Regressions with Monetary Policy Decisions Only - Levels (2010-2017)

	N	median	sd/iqr	min	max
Inflation Surprise	1,482	-0.02	0.12	-0.69	0.50
Monetary Policy Surprise	1,226	0.00	0.00	-0.50	0.50
EoY GDP Exp.	1,486	2.84	1.60	0.00	5.50
EoY Exchange Rate Exp.	1,498	13.0	4.50	11.0	23.50
EoY Policy Rate Exp.	1,529	4.50	1.00	2.75	8.00
EoY Inflation Exp.	1,521	3.83	0.93	2.02	6.80
EoNY GDP Exp.	1,414	3.40	1.10	0.50	5.00
EoNY Exchange Rate Exp.	1,377	12.9	4.30	2.20	24.0
EoNY Policy Rate Exp.	1,418	4.50	1.75	3.00	8.50
EoNY Inflation Exp.	1,491	3.60	0.45	2.78	5.39
Long Term Inflation Exp.	679	3.42	0.33	3.00	4.40
Acc. Δ in Policy Rate	2,108	0.00	0.65 ^a	-1.00	2.50
Lagged Annual Inflation Rate	2,108	3.71	0.99 ^a	2.29	6.56

Notes: ^athe dispersion measurement corresponds to the standard deviation.

Additional Table

Table: Summary Statistics of Variables in Regressions with Monetary Policy Decisions Only - Levels (2010-2017)

	N	median	sd/iqr	min	max
Inflation Surprise	1482	-0.019	0.118	-0.687	0.496
Monetary Policy Surprise	1226	0.000	0.000	-0.500	0.500
Δ EoY GDP Exp.	1382	0.000	0.000	-2.600	1.400
Δ EoY Exchange Rate Exp.	1373	0.000	0.000	-12.556	20.879
Δ EoY Policy Rate Exp.	1400	0.000	0.000	-1.000	1.250
Δ EoY Inflation Exp.	1410	0.000	0.040	-0.800	1.560
Δ EoNY GDP Exp.	1305	0.000	0.000	-1.200	1.000
Δ EoNY Exchange Rate Exp.	1260	0.000	0.000	-11.364	34.078
Δ EoNY Inflation Exp.	1389	0.000	0.000	-1.200	1.500
Acc. Δ in Policy Rate	2,108	0.00	0.65 ^a	-1.00	2.50
Lagged Annual Inflation Rate	2,108	3.71	0.99 ^a	2.29	6.56

Notes: ^athe dispersion measurement corresponds to the standard deviation.

Additional Table: EoY Inf. Expectations MPA vs. NoMPA

	Dependent Variable: $\Delta E_{it} (\pi^{\text{end } y})$			
	(1)	(2)	(3)	(4)
Sample:	All	MPA Latest	All	No MPA Latest
π_{t-1}^{surp}	0.3820*** (0.0538)	0.3520** (0.1610)	0.3390*** (0.0560)	-0.3000*** (0.1270)
r_{t-1}^{surp}	0.0799** (0.0253)	0.1180*** (0.0364)		
$\Delta E_{it} (\text{GDP}^{\text{end } y}, \text{LR})$	0.0436 (0.0268)	-0.0981 (0.0742)	-0.0106 (0.0264)	-0.1970 (0.1920)
$\Delta E_{it} (\text{NER}^{\text{end } y}, \text{LR})$	0.0028 (0.0017)	0.0073** (0.0028)	0.0066** (0.0030)	0.0144* (0.0084)
$\sum_{\text{jan}}^{t-1} \Delta r$	-0.0013 (0.0119)	-0.0159 (0.0242)	-0.1460*** (0.0127)	0.1010** (0.0415)
$\pi_{t-1}^{\text{monthly}}$	0.0787** (0.0286)	0.1020 (0.1600)	0.2550*** (0.0285)	0.0267 (0.0608)
Constant	-0.0058 (0.0237)	-0.2880*** (0.0718)	-0.1110*** (0.0224)	0.5490*** (0.0619)
Year FE	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes
Participant FE	Yes	Yes	Yes	Yes
Observations	1,104	302	2,283	564
R-squared	0.203	0.318	0.264	0.424
Number of banks	29	24	29	25

Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

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Additional Table: Change in Policy Rate Call

	Dependent Variable: Δ Policy Rate Call			
Sample:	(1) All	(2) Latest	(3) All	(4) Latest
π_{t-1}^{surp}	-1.4170 (0.9760)	0.8440 (2.5370)	-0.4260 (0.5260)	-0.4760 (0.7850)
r_{t-1}^{surp}	-1.9020** (0.8010)	-4.3960** (0.9390)	-1.9480*** (0.6650)	-1.7400** (0.6860)
$\Delta E_{it} (\text{GDP}^{\text{end y}})$	-0.4070 (0.5450)	-1.3550 (1.1980)	-0.0837 (0.2170)	-0.6440 (0.5490)
$\Delta E_{it} (\text{NER}^{\text{end y}})$	-0.2070*** (0.0474)	-0.1880*** (0.0626)	-0.0312 (0.0228)	-0.0914*** (0.0320)
$\Delta E_{it} (\pi^{\text{end y}})$	-0.8990 (0.7530)	-1.3920 (1.3270)	-0.9920*** (0.3140)	-0.5800 (0.3620)
$\sum_{\text{jan}}^{t-1} \Delta r$	2.1300*** (0.3610)	6.5590*** (0.7600)	0.6990*** (0.2080)	5.7890*** (0.4310)
$\pi_{t-1}^{\text{annualized}}$	-2.4960*** (0.2850)	-0.3710 (0.6830)	-0.9130*** (0.1430)	-0.4520* (0.2370)
Year FE	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes
Participant FE	Yes	Yes	Yes	Yes
Observations	918	229	2,476	636
R-squared	0.367	0.532	0.098	0.361
Number of banks	29	23	29	25

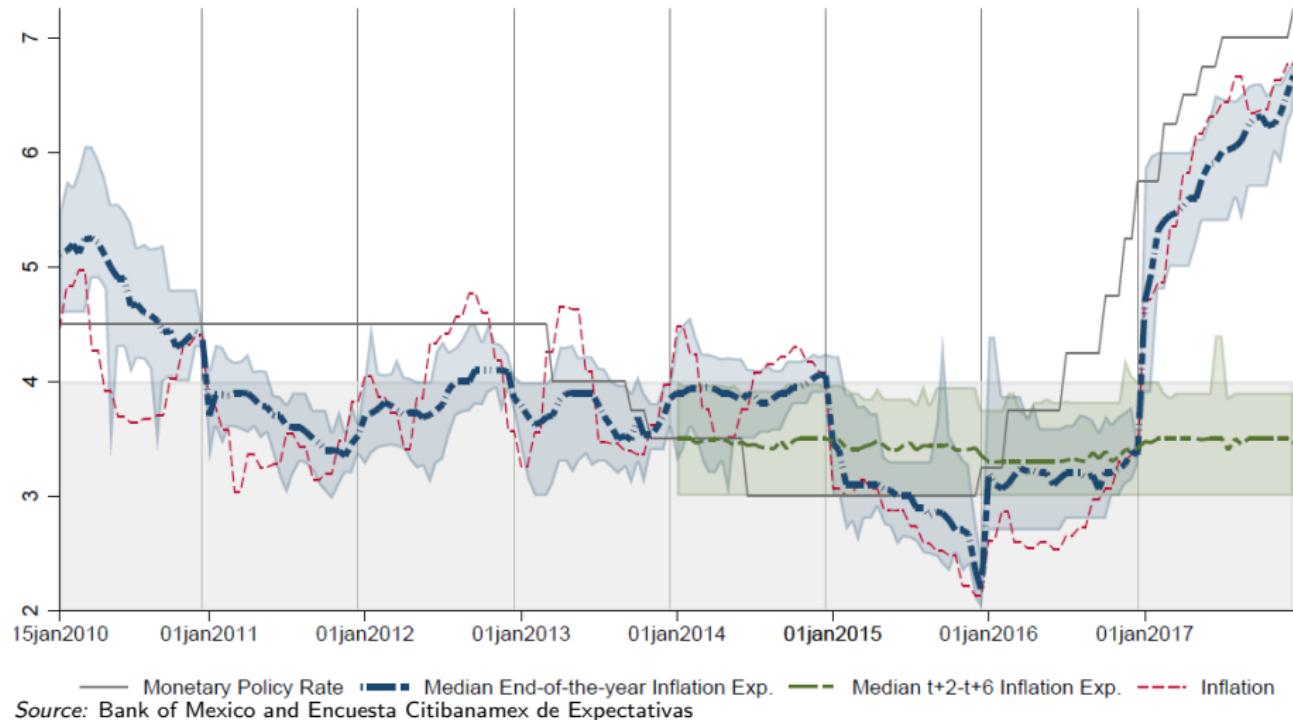
Notes: Columns (1) and (2) include the surveys that had a monetary policy announcement right before, while columns (3) and (4) include the complete set of surveys. Columns (1) and (3) include the surveys from Jan-2010 until Dec-2017; columns (2) and (4) include the surveys in 2016 and 2017. The dependent variable in the 4 specifications is changes in the policy rate call, but only when the professional forecasters expect an increase in the rate.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

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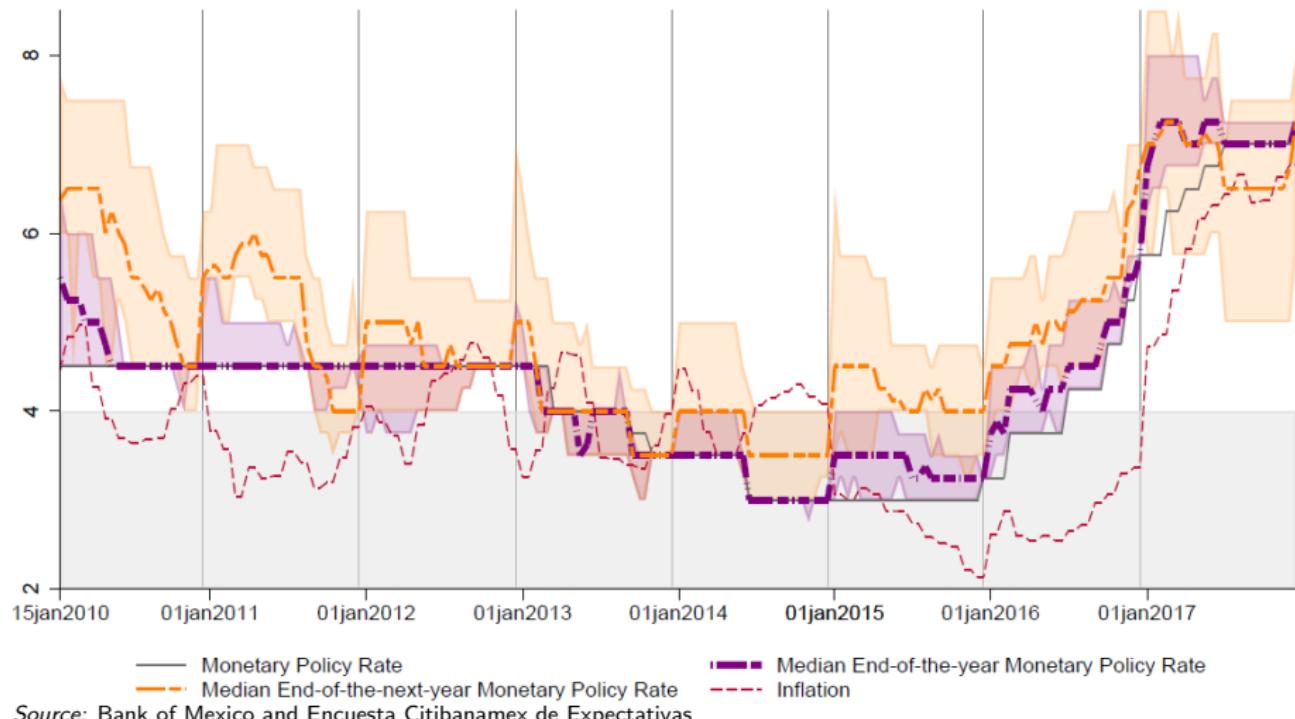
Additional Figures

Figure: Inflation, monetary policy rate, and π expectations - Min-Max



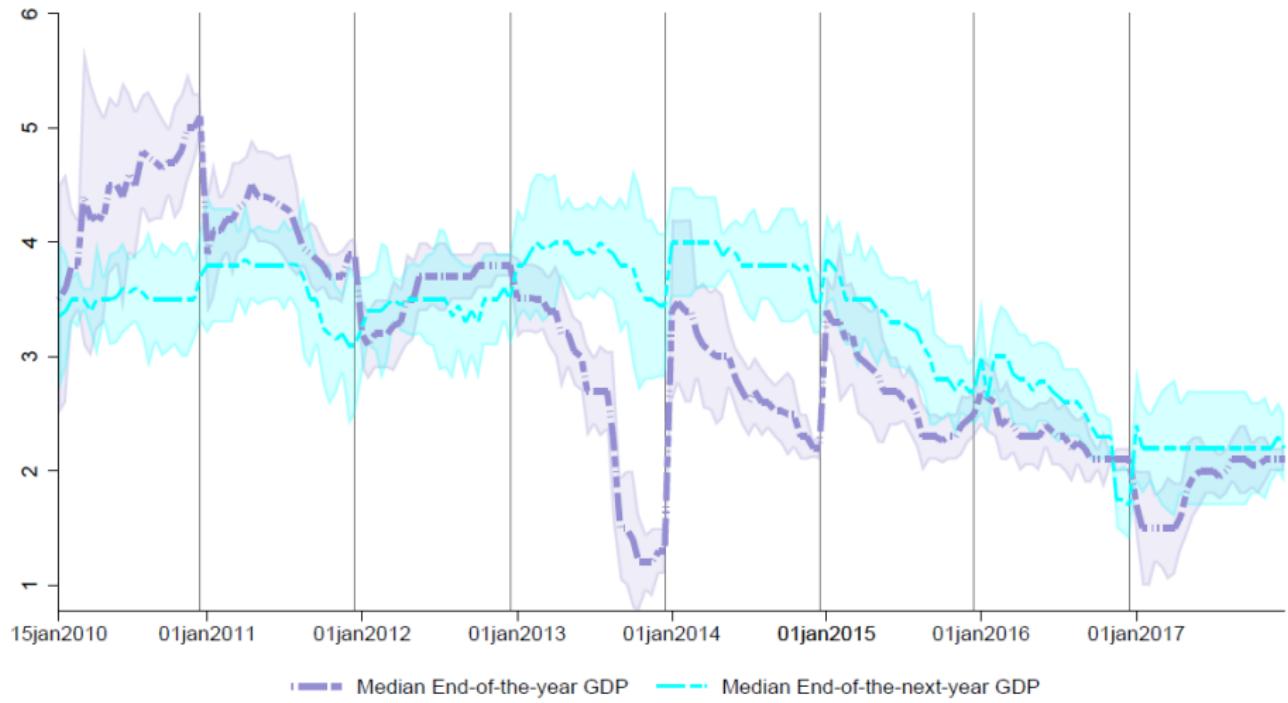
Additional Figures

Figure: Inflation, monetary policy rate, and r expectations - Min-Max



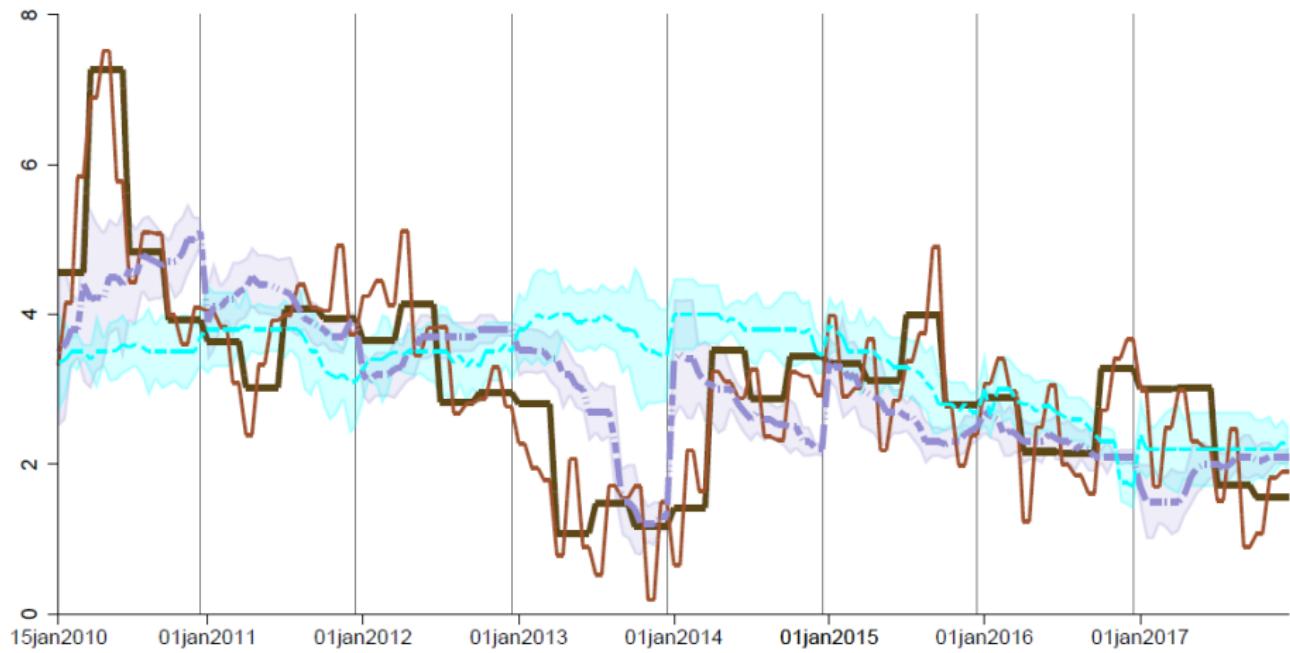
Additional Figures

Figure: GDP expectations, short and long term



Additional Figures

Figure: GDP observed and expectations, short and long term



Source: INEGI and Encuesta Citibanamex de Expectativas. The publication of the data is the 23rd of the second month after the measured period.

Additional Figures

Figure: Nominal Exchange Rate observed and expectations, short and long term

