Monetary Policy Announcements and Expectations: The Case of Mexico*

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Abstract

In this paper we study the effects of Mexico's Central Bank monetary policy decisions on the expectations of private forecasters. In particular, we analyze the inflation and monetary policy rate expectations. We estimate a fixed effect model at analyst level using a panel of professional forecasters from 2010 to 2017. We study the differences in expectations before and after a monetary policy announcement and we compare it when there are no announcements. We find that professional forecasters "listen" to the central bank, i.e. the changes in their short-run expectations are different when there are monetary policy announcements. Also, we find that analysts' surprises in realized inflation affect short-term inflation expectations

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but do not affect long-term inflation expectations suggesting anchored inflation expectations. Also, we find that nominal exchange rate play an important role in determining both short-term inflation expectations and reference rate expectations. Additionally, monetary policy surprises have an impact on end-of-the-year inflation expectations and reference rate expectations.

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1 Introduction

As Bernanke (2004, 2013) and Woodford (2005) have pointed out, in order for monetary policy to be effective, it is important for the public to understand the central bank's actions. In other words, the public's understanding of what the central bank is doing today and is expected to do in the future is indeed key for the effectiveness of policy, as one of the main transmission channels of monetary policy is that which operates by affecting agents' expectations. Then, understanding the effects of the communication of the central bank in general, and the monetary policy announcements, in particular, is a way of evaluating this effectiveness (Blinder et al., 2008). In turn, many central banks have implemented the inflation targeting regime to anchor the public's inflation expectations gaining understanding on the objective of the policy-maker and hence, on how the central bank plans to affect spending decisions. This framework has shown to be very effective on reducing inflation in many emerging economies (EMEs, hereafter) and anchoring inflation expectations (Capistrán and Ramos-Francia, 2010, De Mello and Moccero, 2009).[1]

In this paper, we study an EME, Mexico, that implemented inflation targeting effectively in 2003. We evaluate the effect of monetary policy announcements (a measure of communication in special because it is accompanied by a communiqué) on shifting professional forecasters' expectations. To do so, we rely on a novel dataset that brings together the fortnight Citibanamex Survey. First, we look at the determinants of the changes in

[1] Recent studies on households and firms' surveys have found that inflation targeting not necessarily anchor inflation expectations in countries with low inflation. Binder (2017) studies households' expectations and find that in the United States, after the 2012 announcement of the inflation target only college-educated, male respondents with stock market investment improved their inflation expectations anchored, while for other groups there was no change. Kumar et al. (2015), using firms' surveys, find similar results for New Zealand.

end-of-the-year (and longer term) inflation and end-of-the-year monetary policy rate expectations before and after a monetary policy announcement. Second, because of the questions in the survey, we evaluate the determinants of adjustments on the timing of the next movement of the monetary policy rate is going to be, and we study how central bank communication of the monetary policy decision affects them. Our benchmark for comparison corresponds to the surveys in which there are no monetary policy announcements.

We evaluate the determinants of changes in expectations when there are monetary policy announcements; our results show that analyst's surprises in published inflation affect short term inflation expectations but do not have an effect on long term inflation expectations suggesting anchored inflation expectations. Additionally, monetary policy surprises, defined as the difference between the observed and the expected movements in the reference rate, do matter for end-of-the-year inflation and reference rate expectations. Moreover, the monetary surprises are also significant when deciding when the next movement of the monetary policy is going to be. Professional forecasters update their expectations with the new information that comes after the Monetary Policy Committee's meetings. More importantly, such expectations show no contamination of observed inflation on expected inflation, signaling strong anchoring of inflation expectations.

Our results show that monetary policy announcements do change the determinants of end-of-the-year inflation and interest rate expectations. When looking at inflation expectations, observable variables, such as monthly inflation and the cumulative of the yearly changes in the reference rate, gain more relevance when there are no monetary policy announcements. This indicates that professional forecasters focus on the monetary policy decision and its explanation when there is one and accommodate their expectations accordingly. When evaluating monetary policy rate expectations, not surprisingly, the relevance of the changes in policy rate decrease when there are no announcements, but inflation surprises, measured as the difference between observed and expected inflation, increase their relevance. Again, the announcements change short-term agents' expectations. We find that there are no changes for long-run inflation rate expectations.

To the best of our knowledge, our paper is the first one to study how monetary policy announcements shape end-of the-year inflation and monetary policy rate expectations in an EME, such as Mexico. Moreover, we are able to look at changes in the expectations on the next movement of the monetary policy rate due to the features of the survey we use. This variable is usually not included in similar surveys, and analyzing this type

of information helps to understand how professional forecasters build their expectations.

Related Literature Our paper is related to two strands of literature. The first line of papers relates to how communication of the central bank might shift expectations regarding inflation, monetary policy, or financial markets in general. While the second strand of literature evaluates the success of the inflation target regime with the use of professional forecasters surveys on inflation expectations.

The first strand of literature is related to how effective the communications of the central bank is, in turn Rosa and Verga (2007) look at ECB evidence on monetary policy expectations, while Reeves and Sawicki (2007) study the market's reaction to the Bank of England's communication. Both papers find evidence of communication affecting short-term market expectations and taking them closer to the actual ones. However Miah et al. (2016) analyze 20 emerging markets and 10 developed economies, and find that forecasters do not use available information efficiently. Garcia-Herrero et al. (2015) study how financial markets (in terms of volatility and volume in the money market rates) react to the communication of the Bank of Mexico's monetary policy decision. Their results show evidence of effective oral and written communication from the policy maker towards domestic money markets. The analysis of EME's cases started recently and is still incipient due to data availability. We show that expectations in Mexico react to monetary policy announcements in the predicted manner.

Due to the relevance of inflation expectations for the inflation targeting regime of monetary policy, surveys on inflation expectations have gained interest. In particular, professional forecasters' surveys helped to reduce disagreement on inflation expectations in inflation targeting regimens (Brito et al., 2018, Capistrán and Ramos-Francia, 2010). Baghestani and Marchon (2012) look at the Brazilian case and find that the transparency that came with the inflation targeting has anchored expectations. Coibion et al. (Forthcoming) study firms' macroeconomic expectations in New Zealand and find that firms' inflation expectations are much higher than the inflation target because of incentives to collect and process information. We contribute to this literature by using private forecasters expectations and studying their determinants in an inflation targeting regime such as Mexico.

We use a survey to professional forecasters because in Mexico there is no other source of information on inflation expectations. We understand this is a limitation of the data and the relevance of surveys to firms and house-

holds. Nevertheless, looking at professional forecasters surveys in Mexico is interesting because it allows us to analyze the effects of monetary policy announcements, as part of the communication toolkit, in a country that has have surveys on expectations for several years now and the inflation targeting regime is well established.

The paper is organized as follows. In Section 2 we characterize the survey and the observed data that we use. Additionally, we describe the time series and the empirical model. In Section 3 we present our main results. Lastly, in Section 4 we present the final remarks.

2 Data, Descriptive Statistics and Empirical Model

2.1 Data

We constructed a panel dataset with observed economic variables and Citibanamex surveys to professional forecasters that include questions about their expectations on inflation, GDP, exchange rate, and policy rate. Regarding inflation, professional forecasters are asked about their expectations on core and general inflation, for the previous fortnight, month, end-of-the-current-year, end-of-the-next-year and the average for the next two to six years. Regarding GDP and exchange rate, they have to answer with the values for the end-of-the-current and -next year. Finally, they are also asked about when they expect the next movement of the interest rate is going to be and which will be the magnitude, together with the closing rate for the current and the next year. Citibanamex publishes the survey bimonthly—once every fortnight— in pdf version, two to four days before the National Institute of Statistics and Geography (INEGI, in Spanish) publishes inflation data for the previous fortnight. We compile all the surveys from January 2010 to December 2017 in order to create the database. It is worth noting that some analysts did not respond every survey during our study period, and sometimes analysts did not answer all questions in the survey. Thus, we have an unbalanced panel dataset with twenty-nine analysts.[2]

For our dataset, we constructed the following variables: (1) inflation and monetary policy surprises, defined as observed minus expected, (2) changes in inflation, policy rate, GDP growth, and nominal exchange rate level expectations, at the end-of-the-current year and end-of-next year, as well as (3) the accumulated changes in the policy rate for that year and the lagged monthly inflation rate. In Table A.1 we include a detailed description of the

[2] We excluded four analysts from the sample because the number of observations was too small.

variables, their definition, sources, and uses in the regressions.

In order to match the observed data with the survey, we assign the former to the fortnight corresponding to the survey's publication date. We are interesting on evaluating the effects of the monetary policy announcements, then, we take the difference between the data of the survey before and after the monetary policy decisions; we use the change in the surveys without monetary policy decision as benchmark. For the specification explaining the change in the policy rate call we used all surveys that expect an increase in the interest rate (it makes the interpretation of the results easier). On three occasions the day of the publication of the survey coincided with the monetary policy decision.[3] In these cases, the survey was released a couple of hours after the monetary policy decision and, thus, we considered such surveys in our database as published after the decision. We capture 68 monetary policy decisions, most of them within a pre-fixed calendar.

In addition, most Citibanamex surveys after the last decision of each year ask forecasters their end-of-the-year policy rate's expectation. Thus, the forecasters that answer the question always set their expectation at the level fixed during the last monetary policy decision. We used this information to calculate the difference in policy rate expectations before and after the last decision of the year. However, Citibanamex did not ask this question in the post decision surveys of December 2015 and 2016. Therefore, in both cases we set analysts' end-of-the-year policy rate expectations at the level set in the last monetary policy decision of the corresponding year.

2.2 Descriptive Statistics

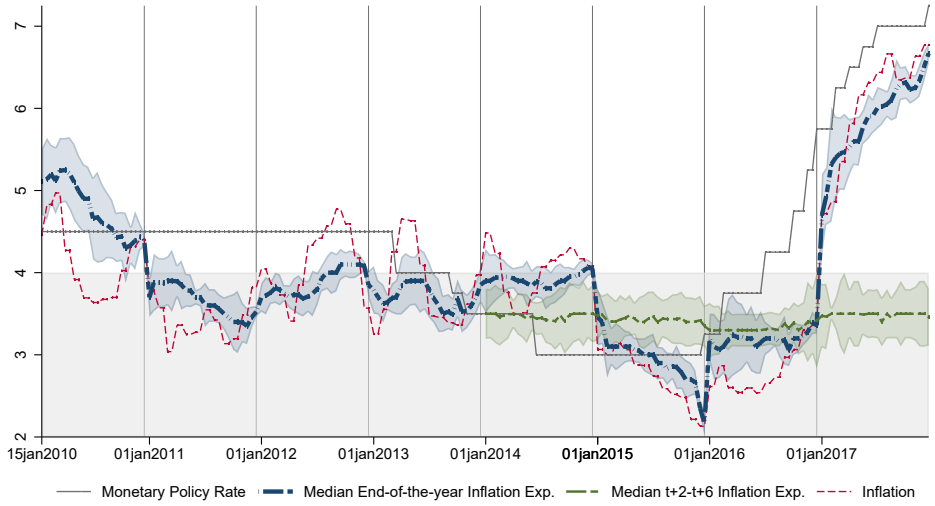
We look at the period starting in January, 2010 up to December, 2017, because of data availability. In this subsection we describe the observable data (the monetary policy rate and inflation) and some characteristics of the data on expectations that we use in our analysis.

In Figure 1, we plot the monetary policy rate (gray-solid line), the observed inflation (red-dashed line), and the Central Bank's inflation range objective (gray area). We also include the median of the end-of-the-year (dark blue-dashed-thick line) and median of the average for the next 2 to 6 years (dark green-dashed-thin line) inflation expectations, the areas around these lines correspond to the interquartile deviation for each survey. The vertical lines correspond to the last survey of the year.

From the figure, we learn that for the first part of our sample, from Jan-

[3] The dates for these events are September 5, 2014, December 5, 2014 and March 18, 2016.

Fig. 1. Reference interest rate, inflation rate, and inflation expectations

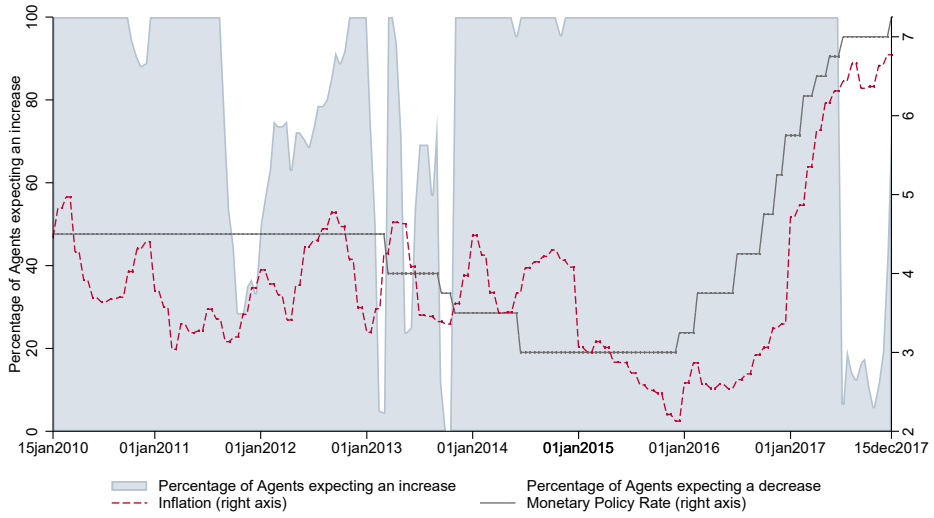


Source: Own calculations with data from Banco de México, INEGI, and Citibanamex Survey.

uary, 2010 until March, 2013, the monetary policy rate remained fixed at 4.5 percent, as a response to the latest financial crisis; since then, in nearly 18 months, the Bank of Mexico reduced the monetary policy rate to 3 percent. Since June, 2014 and until December, 2015, the Monetary Policy Committee maintained the monetary policy rate at it lowest level. Afterwards, a period of monetary policy tightening started. The last two increases during our period of study were in June 2017, when the interest reference rate reached 7 percent, and in December 2017, when the Monetary Policy Committee increased the interest rate again up to 7.25 percent. During most part of the period, around 60% of our sample, annualized inflation has remained inside the boundaries of the Bank of Mexico's inflation target; the most notably exception is 2017, year in which inflation increased to almost 7 percent. In this context, long-run inflation expectations (measured as the median of the average for the next 2 to 6 years) have remained stable at around 3.4 percent, while shorter term (end-of-the-current-year) inflation expectations have moved with observed inflation (with a correlation coefficient of 0.92).

One of the variables that the Citibanamex Survey asks, and is unique for emerging economies in this sense, is the next monetary policy call. In Figure 2, we plot the percentage of forecasters that expect an increase (or a decrease) in the following interest rate movement. The blue area corre-

Fig. 2. Percentage of analysts that expect increase or decrease in the policy rate's next move



Source: Own calculations with data from Citibanamex Survey.

sponds to the percentage of forecasters that expect an increase in the rate, while the white one refers to those that expect a decrease. We also include the monetary policy rate (gray-solid line) together with the inflation rate (red-dashed line). During the studied period, in general, analysts expected an increase in the interest rate (blue area): 85 percent of the time professional forecasters expected a rise in the interest rate, while only 15 percent expected a reduction. There are other interesting points to emphasize. First during the start of our study period with no changes in the monetary policy rate (Jan-2010 to Mar-2013), most analysts were expecting an increase in the interest rate, suggesting that they thought that such rate was at its lowest point. However, the Monetary Policy Committee decided to decrease the reference rate in 2013. The percentage of analysts expecting a reduction started increasing only three months before the actual reduction in the monetary policy rate. Second, when the reference interest rate reached 7 percent in June 2017, forecasters estimated that the interest rate was at its celling and expected a reduction in the next movement that did not materialized. In fact, the Monetary Policy Committee decided to increase the reference rate again in December 2017. This "unexpected" movement in the interest rate was not necessarily a problem in the Central Bank communication since the Mexican economy experimented a sequence of additional supply infla-

tionary shocks that hampered the inflation convergence to Bank of Mexico's inflation target.

Table A.2 shows the summary statistics of the variables included in our regressions (in Table A.3 we show the summary statistics for the variables in levels). We can observe that the medians of almost all variables are zero, except for that of the inflation surprise —that is slightly negative— and of the lagged annual inflation rate —that is closed to 3.5 percent. Therefore, we do not observe a systematic bias in the forecasters' medians. The interquartile ranges of the variables constructed from the survey are close to zero because the medians are zero, except for the interquartile range of the inflation surprise. The standard deviations for the accumulated changes in the policy rate and the lagged annual inflation rate were lower for the later period (2016-2017) than for the complete period.

2.3 Econometric Analysis

We estimate a fixed-effects regression with the expected end-of-the-year reference rate and inflation expectations as dependent variables. Analyst fixed effects allow us to control for observable and unobservable characteristics at analyst level that do not change over time and could simultaneously affect the dependent and the independent variables. This addresses possible endogeneity problems related to constant-in-time unobservables. For example, the presence of systematic bias among professional forecasters could affect the results in a traditional econometric setting that uses the variables in levels. Ehrbeck and Waldmann (1996) showed that systematic bias is indeed a characteristic amidst professional forecasters. We are working with an unbalanced panel where analysts enter and exit the sample during the study period. If analysts with a particular characteristic predominately enter the sample in a specific period of time, say, when a movement in the reference interest rate becomes imminent more "systematically biased" analysts enter the sample, the coefficients estimated with a pooled regression could be biased. However, because the panel fixed effects model only uses the information of changes in time of the same analyst (Angrist and Pischke, 2009), this regression is less prone to this type of bias. In other words, any unobserved or observed characteristic that does not change in time is captured in the fixed effects term at analyst level and it will not bias the results. However, we do not know if an analyst changes or goes to another institution, so we cannot control for that, we abuse the terminology and we refer to analyst or institution indistinctly. Additionally, panel data fixed effects models are particularly useful in this setting because they capture

the behavior of the relationship between the relevant variables in time and also identify changes in time of this relationship.

We run three sets of regressions. The first set of regressions includes differences in analyst's inflation expectations ($\Delta E_{it}\pi^{x}$), where x corresponds to two different periods of time; the short-term one, that corresponds to end-of-the-year inflation expectations, and the longer-term one, that is the average expected inflation between 2 and 6 years from the time of the survey. Both regressions are shown below, for every institution i, at time t:

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

and

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

where we include a constant, the inflation surprise (the difference between observed and expected monthly inflation), π^{surp}_{it-1}, the monetary surprise (the difference between observed and expected change in the monetary policy rate), r^{surp}_{it-1}, the change in the end-of-the-year expected GDP growth, $\Delta E_{it}\left(\text{GDP}^{\text{end y+1}}\right)$, the change in the end-of-the-year expected nominal exchange rate, $\Delta E_{it}\left(\text{NER}^{\text{end y+1}}\right)$, the year-cumulative sum of the changes in the reference rate, $\sum_{\text{jan}}^{t-1}\Delta r$, the monthly inflation rate, $\pi^{\text{monthly}}_{t-1}$, month fixed-effect, m, year fixed-effect, y, and analyst fixed-effect, p_i. In the longer-term regression we also include the change in the end-of-the-year reference rate, $\Delta E_{it}\left(r^{\text{end y+1}}\right)$, we do not include such variable in the shorter-term inflation regression expectation because movements in that year monetary rate will not have an impact on that year's inflation due to the time that monetary policy has to be effective.

The second group of regressions has as dependent variable the change in the end-of-the-year monetary policy rate expectation. The specification

reads as follows, using the same notation as in the previous one,

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

However, this regression may present problems because the dependent variable may show little variation since the reference rate remained unchanged during an important part of the study period (see Figure 1). Also, a forecaster may adjust her expectation towards a more restrictive monetary policy stance without changing his end-of-the-year expected interest rate but by moving forward an increase in the interest rate. In order to deal with this potential problem, we create a variable that represents analyst's change in the call of the next movement of the monetary policy reference rate, E_{it}(r call). For example, if a professional forecaster decides to postpone two months his expectation of the next movement in the monetary policy rate, this variable takes the value 2. We use this variable as dependent variable in our third set of regressions, the equation reads:

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

This variable shows more variation during the studied period since analysts may change their expected date of next movement in the reference rate at any month even if the expected change is months ahead. As it was mentioned before, Citibanamex Survey is implemented fortnightly, however, most of the regressions use data reflecting the difference between the survey right before and right after a monetary policy decision. Details of variables used in the regressions are in Table A.1. We run the regressions for two different periods. The first one includes all the observed data and goes from 2010 until 2017. The second one is a subset of the first one, and includes from Dec-2015 until Dec-2017; this period was characterized by important increases in observed inflation and external volatility. We consider that is relevant to also analyze this period in particular in order to verify if the determinants of professional forecasters' expectations changed or remained

constant with respect to the full sample. As we previously mentioned, our benchmark for comparison are the same regressions but in periods in which there are no monetary policy decisions.

3 Results

In Table 1 we report the first set of regressions with analyst's inflation expectations as dependent variable. Columns (1) and (2) have as dependent variable short term inflation expectations, the change in the end-of-the-year inflation expectation, while columns (3) and (4)'s dependent variable are long term inflation expectations, the change in the t+2 to t+6 inflation expectation. Column (1) includes the surveys from Jan-2010 until Dec-2017; columns (2) and (4) include the surveys in 2016 and 2017; while column (3) includes data from Jan-2014 until Dec-2017 due to data availability. It is relevant to note that surprises in inflation data affect only short term inflation expectations and have no effect on long term expectations. This could reveal anchoring of inflation expectations in Mexico. A surprise in the monetary policy i.e., that the reference rate turned out to be higher than the expected rate (more restrictive stance), has a positive effect on the inflation expectations at the end of year. A possible explanation of this result is that a private forecaster with a higher observed rate than expected is surprised because the central bank has information that the analyst could not observe or interpret; all these indicate higher inflationary pressures and, as a result, analysts rise inflation expectations. A possible indication of anchored inflation expectations is that monetary policy surprises has no effect on long term expectations. In general, an increase in the GDP growth expectations may reveal demand pressures and, as a result, more inflationary pressures which would suggest a positive relationship between both variables. However, if a reduction in the expected GDP is a reflection of an adverse external environment that comes with higher peso depreciation, the sign of the coefficient of this variable could be negative. For the full sample, the sign of this variable is positive but for the most recent sample, 2016-2017 the sign is negative, this could be a reflection of the adverse external environment that was registered in that period for Mexico. Depreciation of expected nominal exchange rate at the end of the year has a positive effect on inflation expectations on all specifications, included longer term inflation expectations. This reflects that, in general, analyst consider depreciations as a serious risk to inflation.

Monetary policy announcement (MPA) could modify the effects of our independent variables on analyst's expectations. In general, the days in which the central bank communicates its monetary policy decisions are fixed in

Tab. 1. Results from Fixed-Effect Estimations with Change in End-of-the-Year Inflation Expectations and t+2,t+6 Inflation Expectations as Dependent Variables with Monetary Policy Announcements

Dependent Variable:	$\Delta E_{it}\left(\pi^{\text{end y}}\right)$		$\Delta E_{it}\left(\pi^{\text{end y, t+2,t+6}}\right)$	
	(1)	(2)	(3)	(4)
Sample:	All	Latest	All	Latest
π_{t-1}^{surp}	0.3820***	0.3520**	0.0480	0.0264
	(0.0538)	(0.1610)	(0.0329)	(0.0632)
r_{t-1}^{surp}	0.0799**	0.1180***	-0.0227	-0.0200
	(0.0253)	(0.0364)	(0.0272)	(0.0331)
$\Delta E_{it}\left(\text{GDP}^{\text{end y}}\right)$	0.0436	-0.0981		
	(0.0268)	(0.0742)		
$\Delta E_{it}\left(\text{NER}^{\text{end y}}\right)$	0.0028	0.0073**		
	(0.0017)	(0.0028)		
$\sum_{\text{jan}}^{t-1}\Delta r$	-0.0013	-0.0159	0.0307	0.0289
	(0.0119)	(0.0242)	(0.0210)	(0.0268)
$\pi_{t-1}^{\text{monthly}}$	0.0787**	0.1020	-0.0214	-0.0743
	(0.0286)	(0.1600)	(0.0609)	(0.111)
$\Delta E_{it}\left(\text{GDP}^{\text{end y,t+1}}\right)$			-0.0011	-0.0309
			(0.0320)	(0.0460)
$\Delta E_{it}\left(\text{NER}^{\text{end y,t+1}}\right)$			0.0027	0.0047**
			(0.0019)	(0.0018)
$\Delta E_{it}\left(\text{r}^{\text{end y,t+1}}\right)$			0.0159	-0.0065
			(0.0248)	(0.0357)
Constant	-0.0058	-0.2880***	0.0330	0.0250
	(0.0237)	(0.0718)	(0.0221)	(0.0575)
Year FE	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes
Analyst 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

Notes: Columns (1) and (2) have as dependent variable the change in the end-of-the-year inflation expectation, while columns (3) and (4)'s dependent variable is the change in the t+2 to t+6 inflation expectation. Columns (1) includes the surveys from Jan-2010 until Dec-2017; columns (2) and (4) include the surveys in 2016 and 2017; while column (3) includes data from Jan-2014 until Dec-2017, due to availability. The control variables are: π_{t-1}^{surp}, inflation surprise, defined as the difference between the observed monthly inflation and the expected one; r_{t-1}^{surp}, monetary policy surprise, defined as the difference between the observed monetary policy interest rate and the one expected; $\Delta E_t\left(\text{GDP}^{\text{end y}}\right)$ corresponds to changes in the expected GDP at the end of the year; $\Delta E_t\left(\text{NER}^{\text{end y}}\right)$ is the changes in the expected nominal exchange rate at the end of the year; $\Delta E_t\left(r^{\text{end y}}\right)$ is the variation in the expected monetary policy rate at the end of the year; $\sum_{\text{jan}}^{t-1}\Delta r$ is the yearly accumulated sum of changes in the monetary policy rate; $\pi_{t-1}^{\text{monthly}}$ corresponds to the observed annualized inflation rate. Robust standard errors in parentheses. $^{*}p<0.10$, $^{**}p<0.05$, $^{***}p<0.01$

advanced, except for extraordinary meetings. Some explanatory variables could be relevant to explain changes in analyst's expectations when there are no monetary policy decisions. However, when there are monetary policy decisions, analysts could put more attention on the Mexico's Central Bank's communique and reduce the relevance of other variables to modify their expectations. In order to obtain evidence about this, in Table 2 we show the same regressions of Table 1 but only in periods without MPAs; we compare the results between these two sets of regressions. In order to facilitate the comparison, in Figure 3 we present the coefficients of both sets of regressions for short-term inflation expectations. There are four results worth noticing. First, when we look at the periods without monetary policy announcements, the coefficients of the variables for the long-run inflation expectations regressions remain non-significant, this is evidence of anchored inflation expectations (columns 3 and 4). Second, in contrast with the regressions that include monetary policy decisions (Table 1), the end-of-the-year exchange rate expectations become significant for the full sample (column 1). Third, the inflation surprise coefficient becomes negative to explain end-of-the year inflation expectations in the regression that includes only latest data 2016-2017 (column 2). This coefficient is counterintuitive and could be explained by the unusual variation that experimented our data during this particular period. Finally, the fact that the cumulative sum of changes in the interest rate is negative when there are no monetary policy announcements is related to an expected effect of the actions that the central bank has taken, in particular, larger increases in the policy rate drop the end-of-the-year inflation expectations.

Table 3 shows the set of regressions with expected changes in the end-of-the-year reference rate as dependent variable. We include the variations when there are monetary policy announcements, columns (1) and (2), and our benchmark for comparison, when there are no monetary policy announcements, columns (3) and (4). Columns (1) and (3) include data from Jan-2010 to Dec-2017 and columns (2) and (4) include data from Dec-2015 until Dec-2017. When there are monetary policy announcements, the results show that a surprise in inflation does not affect the expected reference interest rate at the end of the year. This shows, up to some degree, how even though the professional forecasters expected a fortnight inflation lower than observed, they do not update their end-of-the-year reference rate at the same speed as inflation, showing that they understand that monetary policy today cannot affect inflation in the short-run, and that these shocks can be temporary. As expected, a monetary policy surprise has a positive effect on the dependent variable in both periods. Changes in the end-of-the-year

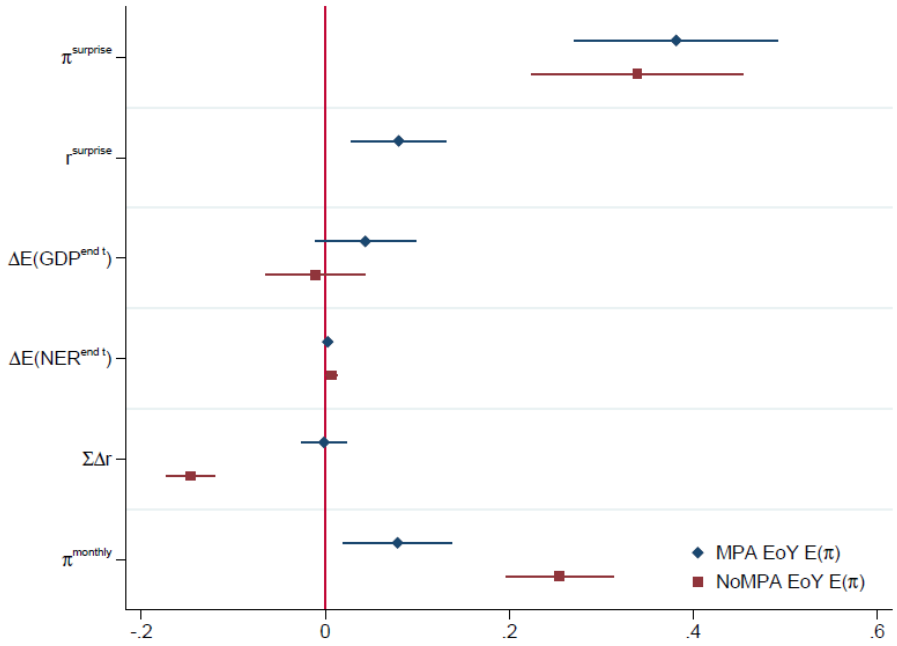
Tab. 2. Results from Fixed-Effect Estimations with Change in End-of-the-Year Inflation Expectations and t+2,t+6 Inflation Expectations as Dependent Variables without Monetary Policy Announcements

Dependent Variable:	$\Delta E_{it}\left(\pi^{\text{end y}}\right)$		$\Delta E_{it}\left(\pi^{\text{end y, t+2,t+6}}\right)$	
	(1)	(2)	(3)	(4)
Sample:	All	Latest	All	Latest
π_{t-1}^{surp}	0.3390***	-0.3000***	0.0058	0.0087
	(0.0560)	(0.127)	(0.0281)	(0.0417)
$\Delta E_{it}\left(\text{GDP}^{\text{end y}}\right)$	-0.0106	-0.1970		
	(0.0264)	(0.1920)		
$\Delta E_{it}\left(\text{NER}^{\text{end y}}\right)$	0.0066**	0.0144*		
	(0.0030)	(0.0084)		
$\sum_{\text{jan}}^{t-1}\Delta r$	-0.1460***	0.1010**	-0.0101	-0.0174
	(0.0127)	(0.0415)	(0.0111)	(0.0391)
$\pi_{t-1}^{\text{monthly}}$	0.2550***	0.0267	0.0067	0.0046
	(0.0285)	(0.0608)	(0.0130)	(0.0142)
$\Delta E_{it}\left(\text{GDP}^{\text{end y,t+1}}\right)$			0.0012	0.0079
			(0.0157)	(0.0164)
$\Delta E_{it}\left(\text{NER}^{\text{end y,t+1}}\right)$			-0.0001	0.0004
			(0.0010)	(0.0016)
$\Delta E_{it}\left(\text{r}^{\text{end y,t+1}}\right)$			0.0094	0.0174
			(0.0120)	(0.0136)
Constant	-0.1110***	0.5490***	-0.0198*	-0.0171
	(0.0224)	(0.0619)	(0.0101)	(0.0145)
Year FE	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes
Analyst FE	Yes	Yes	Yes	Yes
Observations	2,283	564	991	481
R-squared	0.264	0.424	0.025	0.018
Number of banks	29	25	25	24

Notes: Columns (1) and (2) have as dependent variable the change in the end-of-the-year inflation expectation, while columns (3) and (4)'s dependent variable is the change in the t+2 to t+6 inflation expectation. Columns (1) includes the surveys from Jan-2010 until Dec-2017; columns (2) and (4) include the surveys in 2016 and 2017; while column (3) includes data from Jan-2014 until Dec-2017, due to availability. The control variables are: π_{t-1}^{surp}, inflation surprise, defined as the difference between the observed monthly inflation and the expected one; r_{t-1}^{surp}, monetary policy surprise, defined as the difference between the observed monetary policy interest rate and the one expected; $\Delta E_t\left(\text{GDP}^{\text{end y}}\right)$ corresponds to changes in the expected GDP at the end of the year; $\Delta E_t\left(\text{NER}^{\text{end y}}\right)$ is the changes in the expected nominal exchange rate at the end of the year; $\Delta E_t\left(r^{\text{end y}}\right)$ is the variation in the expected monetary policy rate at the end of the year; $\sum_{\text{jan}}^{t-1}\Delta r$ is the yearly accumulated sum of changes in the monetary policy rate; $\pi_{t-1}^{\text{monthly}}$ corresponds to the observed monthly inflation rate.

Robust standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$

Fig. 3. End-of-the-year inflation rate coefficient comparison, with and without monetary policy announcements



Source: Own calculations with data from Citibanamex Survey and Banco de México.
Notes: Confidence Interval at 95%, MPA corresponds to differences in surveys when there are monetary policy announcements and NoMPA when there are no monetary policy announcements. The regressions are similar to the ones presented in Table 1.

GDP growth rate have no effect on the expected end-of-the-year reference rate for both periods of study. On the contrary, the expected depreciation of the Mexican peso increases the reference rate's expectation in both periods of study, and with a stronger effect for the latest period implying that the analysts believe that this shock was going to be persistent. Inflation expectations at the end of the year have the expected positive sign and are statistically significant to explain the expected reference rate for the same period. Finally, the accumulated yearly changes of the reference rate have a positive effect on the dependent variable. This variable intends to capture the previous decisions of the Monetary Policy Committee on that year that could not have been captured by the monetary policy surprise variable. The latter only captures the immediate monetary policy decision, while, the former helps to detect whether professional forecasters react to large accumulated changes in the reference rate during that year. In this sense, we find that as the central bank increases rates during the year, the expected end-of-the-year reference rate also increases. This result is not trivial because if the agent would have already expected the end-of-the-year reference rate including those central bank's actions, that variable shouldn't be significant. The reaction to these changes is higher for the latest period, showing that professional forecasters where expecting a more aggressive response of the central bank.

When we compare the results of the periods in which there are monetary policy announcement with those in which there are no monetary policy announcements, Table 3 we can see that the agents do react different, and so, monetary policy announcements change the end-of-the-year reference rate expectations. In particular, there are three remarkable difference. The first difference refers to inflation surprises, when there are no monetary policy announcements this variable is significant, and it has a negative sign. The sign is contra-intuitive: one would expect to have a higher end-of-the-year reference rate when observed inflation is higher than expected, however, looking into the details of where this result comes from, and breaking the sample by time (before and after December 2015), one can see that the result is a consequence of the latest period only, see Figure A.1; this shows some degree of complexity in terms of changes in determinants of expectations for that period. The second remarkable difference comes from the accumulative changes in the monetary reference rate: for the complete sample this variable becomes negative. We interpret this change in the sign as a slowdown in the increase in end-of-the-year reference rate, the professional forecasters believe that the central bank's interest rate movements at the moment of the survey

Tab. 3. Results from Fixed-Effect Estimations with Change in End-of-the-Year Monetary Policy Rate Expectations as Dependent Variable

Dependent Variable: $\Delta E_{it}\left(r^{\text{end y}}\right)$				
	(1)	(2)	(3)	(4)
	MPA		No MPA	
Sample:	All	Latest	All	Latest
π_{t-1}^{surp}	-0.0226	-0.343	-0.171***	-0.153**
	(0.0376)	(0.259)	(0.0344)	(0.0654)
r_{t-1}^{surp}	0.584***	0.529***		
	(0.0611)	(0.107)		
$\Delta E_{it}\left(\text{GDP}^{\text{end y}}\right)$	-0.0102	-0.0220	0.0248	-0.0966
	(0.0213)	(0.0873)	(0.0175)	(0.0976)
$\Delta E_{it}\left(\text{NER}^{\text{end y}}\right)$	0.0167***	0.0208***	0.00325	0.00996**
	(0.00227)	(0.00503)	(0.00215)	(0.00404)
$\Delta E_{it}\left(\pi^{\text{end y}}\right)$	0.131***	0.307***	0.274***	0.517***
	(0.0388)	(0.109)	(0.0506)	(0.0477)
$\sum_{\text{jan}}^{t-1}\Delta r$	0.0762***	0.124**	-0.0741***	-0.0413
	(0.0163)	(0.0520)	(0.00724)	(0.0251)
$\pi_{t-1}^{\text{monthly}}$	0.0325	0.139	0.000722	0.0949**
	(0.0382)	(0.231)	(0.0189)	-0.0397
Constant	-0.103***	0.0816	0.163***	0.0525
	(0.0264)	(0.162)	(0.0179)	(0.0446)
Year FE	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes
Analyst FE	Yes	Yes	Yes	Yes
Observations	1,096	302	2,261	563
R-squared	0.431	0.495	0.329	0.723
Number of banks	29	24	29	25

Notes: Columns (1)-(4)'s dependent variable is the change in the end-of-the-year monetary policy rate expectation. Columns (1) and (3) include the surveys from Jan-2010 until Dec-2017; columns (2) and (4) include the surveys from Dec-2015 until Dec-2017. Columns (1) and (2) are the changes when there are monetary policy announcements while columns (3) and (4) are the differences when there no monetary policy announcements. The control variables are: π_{t-1}^{surp}, inflation surprise, defined as the difference between the observed monthly inflation and the expected one; r_{t-1}^{surp}, monetary policy surprise, defined as the difference between the observed monetary policy interest rate and the one expected; $\Delta E_t\left(\text{GDP}^{\text{end y}}\right)$ corresponds to changes in the expected GDP at the end of the year; $\Delta E_t\left(\text{NER}^{\text{end y}}\right)$ is the changes in the expected nominal exchange rate at the end of the year; $\Delta E_t\left(\pi^{\text{end y}}\right)$ is the variation in the expected inflation at the end of the year; $\sum_{\text{jan}}^{t-1}\Delta r$ is the yearly accumulated sum of changes in the monetary policy rate; $\pi_{t-1}^{\text{monthly}}$ corresponds to the observed monthly inflation rate.

Robust standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$

Tab. 4. Results from Fixed-Effect Estimations with Change in Policy Rate Call Dependent Variable

Dependent Variable: Δ Policy Rate Call				
	(1)	(2)	(3)	(4)
Sample:	All	Latest	All	Latest
π_{t-1}^{surp}	-1.417	0.844	-0.426	-0.476
	(0.976)	(2.537)	(0.526)	(0.785)
r_{t-1}^{surp}	-1.902**	-4.396**	-1.948***	-1.740**
	(0.801)	(0.939)	(0.665)	(0.686)
$\Delta E_{it}\left(\text{GDP}^{\text{end y}}\right)$	-0.407	-1.355	-0.0837	-0.644
	(0.545)	(1.198)	(0.217)	(0.549)
$\Delta E_{it}\left(\text{NER}^{\text{end y}}\right)$	-0.207***	-0.188***	-0.0312	-0.0914***
	(0.0474)	(0.0626)	(0.0228)	(0.0320)
$\Delta E_{it}\left(\pi^{\text{end y}}\right)$	-0.899	-1.392	-0.992***	-0.580
	(0.753)	(1.327)	(0.314)	(0.362)
$\sum_{\text{jan}}^{t-1}\Delta r$	2.130***	6.559***	0.699***	5.789***
	(0.361)	(0.760)	(0.208)	(0.431)
$\pi_{t-1}^{\text{annualized}}$	-2.496***	-0.371	-0.913***	-0.452*
	(0.285)	(0.683)	(0.143)	(0.237)
Year FE	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes
Analyst 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. The control variables are: π_{t-1}^{surp}, inflation surprise, defined as the difference between the observed monthly inflation and the expected one; r_{t-1}^{surp}, monetary policy surprise, defined as the difference between the observed monetary policy interest rate and the one expected; $\Delta E_t\left(\text{GDP}^{\text{end y}}\right)$ corresponds to changes in the expected GDP at the end of the year; $\Delta E_t\left(\text{NER}^{\text{end y}}\right)$ is the changes in the expected nominal exchange rate at the end of the year; $\Delta E_t\left(\pi^{\text{end y}}\right)$ is the variation in the expected inflation rate at the end of the year; $\sum_{\text{jan}}^{t-1}\Delta r$ is the yearly accumulated sum of changes in the monetary policy rate; $\pi_{t-1}^{\text{annualized}}$ corresponds to the observed annualized inflation rate.

$^{*}p < 0.10,\ ^{**}p < 0.005,\ ^{***}p < 0.001$

have already "compensated" the rest of the year expected movements. The third difference is in the latest period analysis. When there are no monetary policy announcements, monthly inflation rates are significant on increasing expected end-of-the-year interest rates, which shows that the latest period was one with very high inflation rates and news that made professional forecasters to update their expectations frequently. The rest of the variables do not show a big change across the models.

Finally, we report changes in the timing of private forecasters' call for movement of the reference rate by Banco de México. It is important to note that regression results change according to the expected sign of the next movement. For example, if the expected next movement in the interest rate is an increase, a rise in the expected end-of-the-year nominal exchange rate would put more pressure on inflationary concerns among forecasters and would advance the date of the next movement in the interest rate, i.e., a negative effect on the dependent variable. However, if the sign of the next movement is a reduction in the reference rate, the same increase in the expected nominal exchange rate would delay the date of the next movement in the interest rate, i.e., a positive effect. Given this opposite expected sign of the coefficients on the independent variables, we need to present the results separately, one regression than includes only data of expected rises in the movement in the interest rate and another for expected decreases in the next expected movement in the interest rate.[4] We only present the results that include expected rises in the monetary policy rate, because these represent 85 percent of the observations during our study period. Until now all regressions described in this section included only surveys that were completed before and after each decision. In our analysis, and as a robustness exercise, we decided to include all available surveys during our study period, because there are eight monetary policy decisions per year and the surveys are implemented on a biweekly basis, but other independent variables like inflation and exchange rate are available every fortnight. Therefore this regression could improve the explanatory power of these variables. However, in this specification the monetary policy surprise variable will not contribute with much information to the model. Table 4 presents the results of these regressions. Columns (1) and (2) include the change in the surveys that were immediately preceded and followed by monetary policy announcements, and columns (3) and (4) include the

[4] Alternatively, it could be added a dummy variable equal to one when the expected movement is an increase in the interest reference rate or interactions of this variable with the rest of the dependent variable but this increases the difficult to interpret the coefficients.

complete set of surveys. Columns (1) and (3) include surveys from Jan-2010 to Dec-2017; columns (2) and (4) include surveys from Dec-2016 until Dec-2017. Surprises in inflation seem not to affect the decision in subsequent rise in the reference interest rate in all the specifications. However, a surprise in the monetary policy, i.e., a higher than expected movement in the reference rate brings forward the next expected movement in the interest rate. For example, in the case of regression (1), if the surprise in the monetary policy is of 1 percent, that is if the monetary policy movement observed was an increment of one percent above of what the forecaster had expected, the expectation of the next rise in the interest rate moves forward by almost 2 months. Of course, this is not a change observed in the data, surprises in monetary policy are generally at 0.25 percent, in this case, the analyst would bring forward the expected moment in the interest rate by 0.475 months, on average. Expected end-of-the-year GDP growth does not affect the dependent variable. Like in the other regressions, the coefficient of the expectation changes in the nominal exchange rate is significant and has the expected sign, i.e. rises in the nominal exchange rate bring forward the timing of the next expected rise in the reference rate. In this regression the variable of the accumulated reference interest rate has a particular relevance because after the central bank implements a movement in the reference interest rate, forecasters move back the time of the next movement. This change is not caused by any economic development but only because the central bank moved the interest rate and, as a result, analysts need to figure out which will be the date of the next movement, this resembles a reset of the expectations. The coefficient of this variable is positive, congruent with this explanation. For example, in regression (1) a movement in the interest rate would move back the date of the next movement by 2.130 months.

4 Final Remarks

The evidence presented in this paper suggests that monetary policy announcements in an EME that has implemented inflation targeting 15 years ago, such as Mexico, have an impact on the adjustments on expectations of private forecasters. Specifically, agents incorporate the new information and update their end-of-the-year inflation and reference rate and their next call on interest rate expectations with the observed data. Short-term inflation and reference rate expectations do change when there are monetary policy announcements. In particular, inflation expectations are more sensible to observable variables when there are no monetary policy announcements. We do not find changes for the latest period, 2016-2017, suggesting that

the determinants of the expectations remains similar to the complete period (2010-2017), showing high degree of anchoring of expectations.

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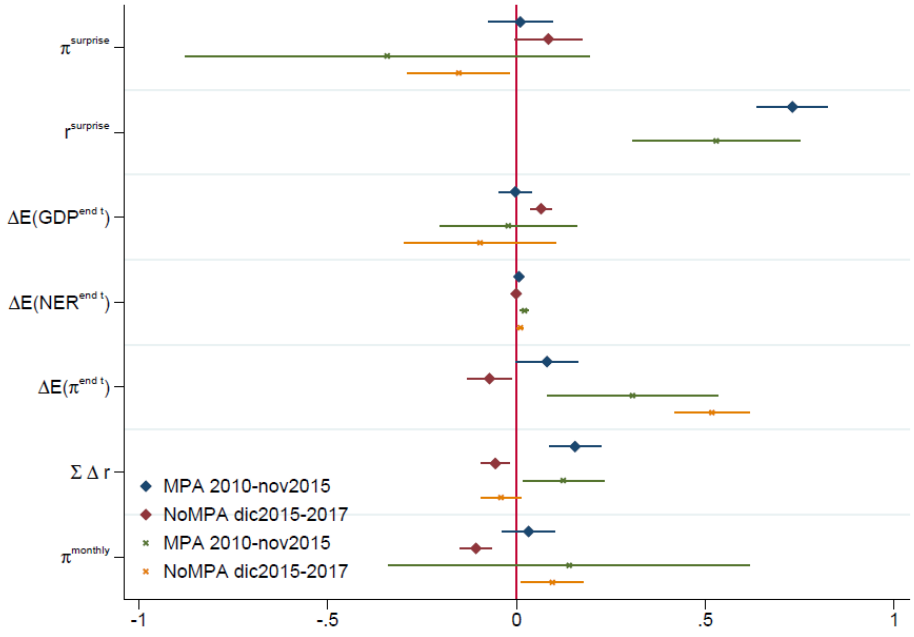
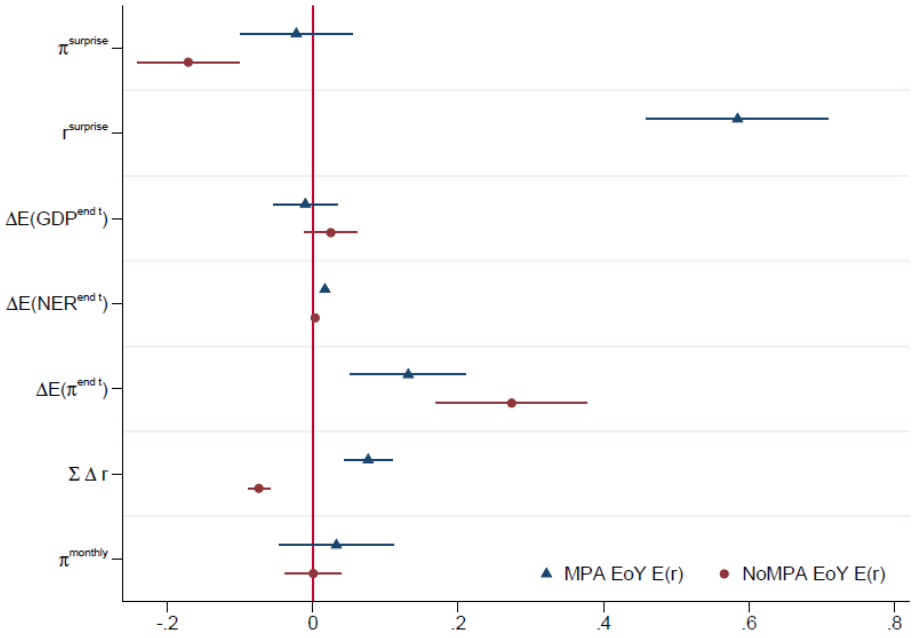
A Data: Summary Statistics and Sources of Data

Fig. A.1. End-of-the-year reference rate coefficient comparison, different time periods



Source: Own calculations with data from Citibanamex Survey and Banco de México.
Notes: Confidence Interval at 95%, MPA corresponds to differences in surveys when there are monetary policy announcements and NoMPA when there are no monetary policy announcements. The regressions are similar to the ones presented in Table 3.

Fig. A.2. End-of-the-year reference rate coefficient comparison, with and without monetary policy announcements



Source: Own calculations with data from Citibanamex Survey and Banco de México.
Notes: Confidence Interval at 95%, MPA corresponds to differences in surveys when there are monetary policy announcements and NoMPA when there are no monetary policy announcements. The regressions are similar to the ones presented in Table 3.

Tab. A.1. Description of Variables in Regressions with Monetary Policy Decisions Only

Name	Symbol	Definition	Source of data used to construct variable	Included in regression		
				Δ Inflation Expectation	Δ Policy Rate Exp.	Δ Policy Rate Call
Inflation Surprise	π_{t-1}^{surp}	Observed inflation minus analyst's inflation expectation	Citibanamex Survey and INEGI	✓	✓	✓
Monetary Policy Surprise	r_{t-1}^{surp}	Observed policy rate minus analyst's expected policy rate	Citibanamex Survey and Banco de México	✓	✓	✓
Δ GDP Expectations for the End-of-Year t or t+1	$\Delta E_{it}\left(\text{GDP}^{\text{end y}}\right)$	Change in end-of-(next)-year GDP expectations (after - before)	Citibanamex Survey	✓	✓	✓
Δ Exchange Rate Expectations for the End-of-Year t or t+1	$\Delta E_{it}\left(\text{NER}^{\text{end y}}\right)$	Change in end-of-(next)-year exchange rate expectations (after - before)	Citibanamex Survey	✓	✓	✓
Δ Inflation Expectations for the End of t or t+1	$\Delta E_{it}\left(\pi^{\text{end y}}\right)$	Change in end-of-(next)-year inflation expectations (after - before)	Citibanamex Survey	Dependent variable	✓	✓
Δ Policy Rate Expectations	$\Delta E_{it}\left(r^{\text{end y}}\right)$	Change in end-of-(next)-year policy rate expectations (after - before)	Citibanamex Survey	-	Dependent variable	✓
Accumulated 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	✓	✓	✓
Lagged Monthly Inflation Rate	$\pi_{t-1}^{\text{monthly}}$	Lag of the observed monthly inflation rate	INEGI	✓	✓	✓
Δ Policy Rate Call	ΔE_{it}(r call)	Change in call for next policy rate movement in months (current - previous)	Citibanamex Survey	-	-	Dependent variable

Tab. A.2. Summary Statistics of Variables in Regressions with Monetary Policy Decisions Only

	2010-2017					2016-2017				
	N	median	sd/iqr	min	max	N	median	sd/iqr	min	max
Inflation Surprise	1482	-0.019	0.118	-0.687	0.496	392	-0.001	0.115	-0.383	0.318
Monetary Policy Surprise	1226	0.000	0.000	-0.500	0.500	342	0.000	0.250	-0.500	0.500
Δ End-of-Year GDP Exp.	1382	0.000	0.000	-2.600	1.400	366	0.000	0.000	-0.800	0.600
Δ End-of-Year Exchange Rate Exp.	1373	0.000	0.000	-12.556	20.879	360	0.000	0.000	-12.556	20.879
Δ End-of-Year Policy Rate Exp.	1400	0.000	0.000	-1.000	1.250	376	0.000	0.250	-1.000	1.250
Δ End-of-Year Inflation Exp.	1410	0.000	0.040	-0.800	1.560	371	0.000	0.040	-0.520	0.600
Δ End-of-Next-Year GDP Exp.	1305	0.000	0.000	-1.200	1.000	351	0.000	0.000	-1.200	1.000
Δ End-of-Next-Year Exchange Rate Exp.	1260	0.000	0.000	-11.364	34.078	321	0.000	0.000	-11.364	34.078
Δ End-of-Next-Year Inflation Exp.	1389	0.000	0.000	-1.200	1.500	366	0.000	0.000	-1.100	1.300
Accumulated Δ in Policy Rate	2108	0.000	0.648[a]	-1.000	2.500	558	1.000	0.607[a]	0.000	2.500
Δ Policy Rate Call	980	1.241	1.000[a]	-16.00	27.00	252	1.000	3.018[a]	-16.000	11.000
Lagged Monthly Inflation Rate	2,108	0.329	0.395[a]	-0.738	1.670	558	0.412	0.418[a]	-0.447	1.670

Notes: [a]the dispersion measurement corresponds to the standard deviation.

Tab. A.3. Summary Statistics of Variables in Regressions with Monetary Policy Decisions Only - Levels

	2010-2017					2016-2017				
	N	median	sd/iqr	min	max	N	median	sd/iqr	min	max
Inflation Surprise	1,482	-0.019	0.118	-0.687	0.496	392	-0.001	0.115	-0.383	0.318
Monetary Policy Surprise	1,226	0.000	0.000	-0.500	0.500	342	0.000	0.250	-0.500	0.500
End of Year GDP Exp.	1,486	2.84	1.60	0.00	5.50	397	2.100	0.400	0.000	3.500
End of Year Exchange Rate Exp.	1,498	13.0	4.50	11.0	23.50	394	18.5	1.55	16.4	23.5
End of Year Policy Rate Exp.	1,529	4.50	1.00	2.75	8.00	420	5.75	2.75	3.25	8.00
End of Year Inflation Exp.	1,521	3.83	0.93	2.02	6.80	402	3.42	2.84	2.02	6.80
End of Next Year GDP Exp.	1,414	3.40	1.10	0.50	5.00	383	2.40	0.60	0.50	4.50
End of Next Year Exchange Rate Exp.	1,377	12.9	4.30	2.20	24.0	357	18.2	2.00	2.20	24.0
End of Next Year Policy Rate Exp.	1,418	4.50	1.75	3.00	8.50	378	6.00	1.75	3.50	8.50
End of Next Year Inflation Exp.	1,491	3.60	0.45	2.78	5.39	397	3.54	0.56	2.78	4.90
Long Term Inflation Exp.	679	3.42	0.33	3.00	4.40	376	3.40	0.30	3.00	4.40
Accumulated Δ in Policy Rate	2,108	0.000	0.648[a]	-1.000	2.500	558	1.000	0.607[a]	0.000	2.500
Lagged Monthly Inflation Rate	2,108	0.329	0.395[a]	-0.738	1.670	558	0.412	0.418[a]	-0.447	1.670

Notes: [a]the dispersion measurement corresponds to the standard deviation.