

Purdah – On the Rationale for Central Bank Silence Around Policy Meetings

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Abstract

Many central banks share the practice of *purdah*, a guideline of abstaining from communication around policy meetings. Although seemingly contradicting the virtue of transparency by withholding information precisely when it is sought after intensely, it has been justified on grounds that such communication may create excessive market volatility. This paper assesses the *purdah* for the Federal Reserve, and confirms that financial markets are substantially more sensitive to central bank communication around policy meetings. Short-term interest rates react three to four times more strongly in the *purdah* before FOMC meetings than otherwise, and volatility increases (compared to a reduction otherwise).

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1. Introduction

Central banks around the globe are pursuing not only different policy objectives, but also vastly different communication strategies. Despite these differences, there is one element that most central banks share, namely the *purdah*, i.e. the practice of a self-imposed, voluntary guideline to abstain from communicating around policy decisions and other important events.¹ The existence of such a practice is remarkable in several ways. At first sight, it seems to contradict the virtue of transparency which has become the hallmark of virtually all progressive central banks, as it requires withholding information from the public when such information is sought after intensely and would likely affect financial markets substantially.

Why then do central banks pursue such a policy? Remarkably little official information about this practice is provided by central banks. The information that is available indicates that an important rationale for the *purdah* is the fear that communication just before policy meetings or other important events may create excessive market volatility and “unnecessary speculation” (Federal Reserve 1982; Bank of England 2000), may narrow the options for committees, or may be feared to “dilute” the message of the decision (Federal Reserve 1995).

These arguments underline that under certain circumstances central banks consider communication to be undesirable and therefore limit transparency. The paper assesses this practice for the Federal Reserve, for which a *purdah* has been in place at least since the early 1980s, nowadays for the 7 days before and 3 days after Federal Open Market Committee (FOMC) meetings, as well as before the Chairman’s semi-annual testimony to Congress.

For our empirical analysis, we are primarily interested in the effect of statements by FOMC members on financial markets during the purdah, and we exploit the fact that such statements do occasionally occur. We find that short-term interest rates react three to four times more strongly to statements reported in the pre-FOMC purdah (immediately before FOMC meetings) than during other times. Statements by FOMC members reported in the pre-FOMC purdah tend to raise market volatility while those in the post-FOMC purdah (in the days following FOMC meetings) or outside the purdah tend to lower volatility. Moreover, these effects are observed primarily at short maturities, indicating that market participants focus more strongly on implications for the current monetary policy stance than for the longer-term outlook for policy in such instances. Finally, the market impact of purdah communication is directly linked to the monetary policy environment in which it occurs. In particular, purdah statements immediately following an FOMC decision that came as a surprise have a substantially larger effect on the level of US interest rates and reduce market volatility much more strongly.

The present paper broadly links to three areas of the literature on monetary policy, transparency and communication. It sheds light on the role of incomplete, asymmetric or noisy information in central bank communication,² but also connects to the work on the role of the market environment for transparency to be effective,³ and the research on the financial market impact of central bank communication (e.g. Kohn and Sack 2004). But the paper is also distinct in several ways. In particular, the argument presented here in an empirical setting is that there may be important instances when central bank information is vastly superior, but still communication

may be welfare-reducing and thus such information is withheld, or at least channeled in a specific manner.

2. Design of the Purdah Period and Communication Data

We commence by defining and describing the purdah practice in this section. The section summarizes the main points of the purdah for the purpose of the empirical analysis below. The interested reader is referred to the extended working paper version (Ehrmann and Fratzscher 2008), which contains a more detailed discussion of the construction of the communication data, quotes of all the statements by FOMC members reported during the purdah and contained in the dataset, as well as relevant quotes from FOMC transcripts (Federal Reserve 1982, 1995).

A careful study of FOMC transcripts shows that the purdah practice for the Federal Reserve goes back at least to the early 1980s, to a time when FOMC members talked relatively freely to the media immediately before and after FOMC decisions. The transcripts indicate that some journalists went so far as to do a “round-robin” of calling all 19 FOMC members before a meeting, thereby obtaining a fairly accurate understanding of the likely debate in the FOMC and its outcome (Federal Reserve 1982, p.54, and 1995, p.35).

Several issues require clarification, a first being the *type of information* covered. FOMC transcripts indicate that it includes all types of information that are relevant for monetary policy decisions, including the overall condition of the economy (Federal Reserve 1995, pp. 35-36). As to the *length of the purdah period*, since 1995 it lasts from seven days before an FOMC meeting till three days after. In addition, the

blackout guideline also includes the period prior to the Semiannual Monetary Policy Report of the FOMC Chairman to Congress.

A third point concerns the *motivation* for the purdah guideline. From the transcripts of past FOMC meetings it appears that concerns are that communication immediately before monetary policy decisions may create excessive market speculation and market volatility, and may narrow the options of the committee. For those occurring immediately after FOMC meetings worries are that “the thrust of the announced decision of the Committee then gets diluted”, as expressed by Mr. Greenspan (Federal Reserve 1995, p. 35), and that they “preempt” or possibly even contradict the information the Chairman is going to give to Congress (Federal Reserve 1995, p. 38).

Turning to how we measure communication by FOMC members, we use the database originally developed in Ehrmann and Fratzscher (2007), and extended it through June 2007 for the present paper. We intentionally take a financial market perspective and attempt to measure all information financial market participants receive about statements by the FOMC members. We therefore chose the newswire service *ReutersNews* to extract all statements about the monetary policy inclination or the economic outlook by the FOMC members. Only statements by the committee as a whole, such as on FOMC meeting days or the release of the Minutes, and statements by FOMC members on such days are excluded from the analysis.

Each statement is then classified into whether it implies an inclination towards an easing, a tightening or no bias concerning monetary policy (assigning the values -1, 1 and 0, respectively; for instance, a concern about higher inflation would constitute an

inclination towards tightening, a statement about a weakening economic outlook an inclination towards easing).

We chose to begin our analysis in February 1994 when the FOMC started announcing its decisions immediately following each FOMC meeting. Table 1 shows that in total our database includes statements surrounding 106 scheduled FOMC meetings, while unscheduled FOMC meetings are excluded since these are difficult to compare to regular meetings. Our database covers 477 statements with around 90% of statements being recorded outside the purdah. These aggregate numbers conceal interesting time variations, however. In particular, there has been a remarkable reduction in purdah statements, with 31 pre-FOMC purdah statements (i.e. those reported in the seven days prior to scheduled FOMC meetings) in the first, and 15 in the second subsample (see Table 1). For the years from 2005-2007, only 1.4% of all statements are such pre-FOMC purdah statements.

Table 1

These numbers seem quite substantial. However, it should be emphasized that statements reported during the purdah *do not necessarily constitute a violation of the purdah guideline by FOMC members*. There are a number of reasons why statements are published during a blackout period, such as delayed reporting of statements that were made prior to the purdah, pre-scheduled obligatory speaking engagements during the purdah (such as testimonies in the earlier parts of our sample), unintentional or at times possibly intentional statements.⁴ In this paper, we do not take

a stand on the underlying reasons; we take the observed statements as our starting point, with the objective of analyzing their effect on financial markets.

An important issue relates to the content of the communication events identified in our dataset. If communication during the purdah carried different information content, it would elicit different financial market reactions. Clearer or more direct communication during the purdah, for instance, could lead to stronger market reactions, yet only because of the different information it conveys, and not because of elevated market sensitivity. While we cannot fully exclude this possibility, a careful reading of the individual statements suggests that this is not the case (all statements are reproduced in Ehrmann and Fratzscher 2008). Furthermore, by searching exclusively for statements that bear the name of an FOMC member, we neglect statements by “senior Fed officials”, which might be a means to get important information to markets during the purdah. While the information content of such statements might well be different, we think that this is not the case for those contained in our dataset.⁵

3. Purdah communication and financial market reactions

We now turn to analyzing the effects of communication on financial markets and the question whether statements reported in the blackout period are special in this regard. We study the effect of communication on the level as well as the volatility of interest rates along the yield curve. For that purpose, we estimate an exponential GARCH (EGARCH) model to test for the effect of statements on both the conditional mean as well as on the conditional variance of asset prices at a daily frequency. An EGARCH(1,1) model is sufficient to address the non-normality of the data, in

particular the serial correlation and heteroskedasticity of the daily interest rate series.

The conditional mean equation is formulated as

$$r_t = \alpha + \sum_k \beta^k COM_t^k + \gamma r_{t-1} + \delta z_t + \varepsilon_t \quad (1)$$

with r_t as the change in the daily US interest rate series, r_{t-1} as the lagged change, z_t as a vector of controls comprising day-of-the-week effects, and COM_t^k as the communication variables. As explained in section 3, COM_t^k takes the value of -1 for statements suggesting an easing inclination, +1 for statements suggesting a tightening, and 0 otherwise.⁶ k denotes statements reported in the three different parts of an inter-meeting period, i.e. $k \in \{post - FOMC\ purdah, no\ purdah, pre - FOMC\ purdah\}$. Note that the model is estimated for all business days in the sample, i.e. also for days where no communication occurred. As $\varepsilon \sim (0, h_t)$, we express the conditional variance as

$$\begin{aligned} \log(h_t) = & \tau + \omega \left(\left| \frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}} \right| - \sqrt{2/\pi} \right) + \phi \log(h_{t-1}) + \kappa \left(\frac{\varepsilon_{t-1}}{\sqrt{h_{t-1}}} \right) \\ & + \sum_k \lambda^k CD_t^k + \sum_d \xi^d z_t \end{aligned} \quad (2)$$

such that the conditional variance of US interest rate changes (h_t) is a function of the past variance (h_{t-1}) and past innovations (ε_{t-1}), as well as a communication dummy CD_t^k that takes the value 1 on all days a communication event is observed, and 0 otherwise, and the day-of-the-week effects z_t . The model is estimated via maximum likelihood, using a Simplex algorithm to obtain initial values and the BHHH and BFGS algorithms for optimization.

Our interest lies in particular with two parameters, namely β and λ . A first hypothesis suggests that $H_0: \beta^k > 0$, i.e. that communication has an effect on the level of US

interest rates, and in the expected direction (whereby “easing statements” lower interest rates, and “tightening statements” raise them). This should hold for all parts of the inter-meeting period alike. In contrast, the hypothesis of elevated market sensitivity would suggest that $\beta^{purdah} > \beta^{no-purdah}$.

Finally, we do not have a prior on whether communication would increase or reduce volatility; however, the hypothesis that purdah communication carries the risk of triggering excess volatility would imply that $\lambda^{purdah} > \lambda^{no-purdah}$.

Table 2 shows the point estimates for the effect of Fed communication on US 6-month interest rates,⁸ separating whether statements occurred in one of the two parts of the purdah or whether they took place in the inter-meeting period outside the blackout period. The right-hand columns indicate whether the coefficient estimates are statistically significantly different from one another. Overall, statements by FOMC members appear to have a highly significant and sizeable effect on short-term interest rates. With all three estimates for β^k being positive, there is clear evidence that communication affects interest rates in the expected directions. Statements outside the purdah period move the level of interest rates on average by about 0.6 basis points (b.p.). By contrast, statements in the pre-FOMC purdah period affect interest rates on average by 4.3 b.p.. Hence, the hypothesis that $\beta^{pre-FOMC\ purdah} > \beta^{no-purdah}$ is easily accepted for the pre-FOMC purdah communication. At the same time, we do not find that $\beta^{post-FOMC\ purdah} > \beta^{no-purdah}$, as statements in the post-FOMC purdah have no statistically significant effect on the level of US short-term interest rates.

Table 2

Of course, statements during the purdah period are much less frequent than those outside of it – Table 1 showed that there were only 62 statements during the purdah in 1994-2007 – so that this finding should not be interpreted as implying that communication in the purdah period moves interest rates by more overall. Nevertheless, what the findings underline is that a single statement has a substantially larger impact on financial markets if it is made during the purdah period just prior to FOMC meetings. This supports the argument by central bankers that markets are generally much more sensitive to statements made shortly before FOMC meetings.

An interesting difference is present for the conditional variance of US interest rates. Communication in the pre-FOMC purdah tends to raise market volatility, while statements in the post-FOMC purdah period and outside the purdah lower it significantly. This suggests that the timing of statements is important. In particular, communication just before FOMC meetings raises volatility, whereas statements immediately following FOMC decisions tend to help settle markets by lowering interest rate volatility.

Figures 1-2

We next extend the analysis to the full maturity spectrum of US interest rates. Figure 1 shows the point estimates and 90% confidence intervals for the impact of pre-FOMC purdah, post-FOMC purdah, and no-purdah statements on the level of interest rates ranging from 1 month to 20 years. Figure 2 provides the same information for the conditional variance. The main finding of the figures is that the differences across

types of statements are largest at the short end of the maturity spectrum, which become somewhat smaller and in some cases statistically insignificant beyond 1-year maturities. For instance, the coefficients for pre-FOMC purdah and no-purdah statements on the level of US interest rates are significantly different up to 1 year, but converge and become equal at the long end of the yield curve. Striking is also the convergence process for the conditional variances shown in Figure 2 as differences to pre-FOMC purdah statements are large up to 1-year interest rates and then disappear thereafter.

How robust are these results? We conduct a battery of robustness tests and extensions to check whether and how these benchmark findings may change. In particular, given the small number of purdah statements, we need to ensure that the point estimates are not driven by a few outliers, a possibility we can rule out after a careful checking of the data (see Ehrmann and Fratzscher 2008). Second, we control for other factors that may drive interest rates on communication days by including in the vector z_t a set of 12 important US macroeconomic announcement shocks.⁹ The results are basically unchanged when such news shocks are included. Third, we test for parameter stability over time, by splitting the sample in May 1999 when the FOMC started the release of bias statements with its decisions, which could mean that purdah communication (at least in the post-meeting purdah) may have become less relevant. However, the point estimates of Table 2 are not statistically significantly different when taking this sample split, confirming the robustness of the findings also from this perspective.

As a final exercise, we extend our analysis by distinguishing between different conditions under which statements are made. Table 3 shows a number of interesting

findings in that regard. First, statements in the post-FOMC purdah period have a substantially larger effect when the preceding decision entailed a surprise for market participants, both for the conditional mean and the conditional volatility of interest rates. Strikingly, this finding extends for a considerable period of time; in the entire inter-meeting period, even up to the pre-meeting purdah for the subsequent FOMC meeting, communication after a policy surprise tends to be beneficial in that it significantly lowers market volatility. Overall, this finding is suggestive that market participants perceive Fed communication to be particularly relevant whenever a previous decision came unexpected, and hence that there is scope for FOMC members to clarify a given decision beyond the FOMC statement accompanying its announcement.

Table 3

Second, the lower panel of Table 3 shows that the impact of statements on the level of interest rates is mostly larger when market uncertainty (as measured through the degree of interest rate volatility in the inter-meeting period) is high. Most importantly, statements in the pre-FOMC purdah have a fundamentally different effect on market volatility depending on the degree of market uncertainty: when market uncertainty is high, they *raise* market volatility on average, rather than lowering it. In sum, this evidence is suggestive that communication appears to add noise to markets when market uncertainty is high, confirming the concern of policymakers that communication may be detrimental during such times.

4. Conclusions

The purdah is a widespread practice among modern central banks, but to our knowledge no work has so far been undertaken to understand the rationale for this practice and to verify it empirically. The objective of the paper has been to fill this gap, in particular as the special nature of the purdah offers a unique perspective on central bank communication and the limits to transparency.

The empirical findings have several implications. Taking a broader perspective, the results underline that the timing of communication – not just relative to policy meetings, but more generally dependent on the market conditions – is of crucial importance when shaping communication policies. Communication in the purdah prior to FOMC meetings moves markets by substantial amounts, and at the same time raises market volatility excessively, suggesting that central banks might indeed be well advised to observe this rule. By contrast, post-FOMC purdah statements mostly *reduce* the conditional variance of interest rate movements, thus suggesting that they are at least partly successful in lowering uncertainty and settling markets. Communication immediately after policy surprises in particular may be an effective policy tool.

We are aware that the purdah concerns only a relatively short period of time, and that the findings here are not applicable to guide central banks' communication policies outside this restricted time window. Nonetheless, the analysis of this special event suggests that there can be cases where an appropriate reception of the information content of central bank communication is not ensured. This special case study therefore yields important insights into the limits to central bank transparency.

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ENDNOTES

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- * We would like to thank Terhi Jokipii and Björn Kraaz for excellent research assistance, Niels Büemann for some information about the purdah practices of central banks, and Ken West, an anonymous referee, Magnus Andersson, Alan Blinder, Alex Cukierman and Bernhard Winkler as well as seminar participants at the ECB for comments. This paper presents the authors' personal opinions and does not necessarily reflect the views of the European Central Bank.
- ¹ The word 'purdah' originally comes from Urdu and Hindi, and literally means 'curtain', referring to the practice of preventing men from seeing women (see e.g. Wikipedia 2008).
- ² See e.g. the debate between Morris and Shin (2002), Amato et al. (2002) and Svensson (2006), and related work by Rudebusch and Williams (2006), Gosselin et al. (2007) and Orphanides (2003).
- ³ See e.g. Bernanke et al. (2004), Eggertsson and Woodford (2003) and Gürkaynak et al. (2005).
- ⁴ In the transcript of the January 31-February 1, 1995, meeting, it was acknowledged that the purdah "has not worked 100 percent" (Federal Reserve 1995, p. 35). Ehrmann and Fratzscher (2008) provides the relevant statements contained in our database, allowing the interested reader to cross-check our classification.
- ⁵ We would like to thank Alan Blinder for pointing this out to us.
- ⁶ Differently to the standard practice in the announcement literature, we do not control for market expectations, for mainly two reasons. First, identifying market expectations about the content of a speech or an interview is practically impossible. Second, even though some of the speaking engagements might be pre-announced, their content is in most cases not. The mere fact that a speaker touches upon an issue (even though possibly confirming the market's views about the future path of policy) can therefore be sufficient to generate relevant news to the market. Otherwise, we would expect our variable to be measured with error, leading to an attenuated estimator in the mean equation.
- ⁷ Note that the volatility in this model is a conditional one, implying that λ measures the effect of statements on that part of the variance which cannot be accounted for by the effect of communication and other controls on the level of interest rates. Hence, for instance, it can be consistent to find that $\beta > 0$ and $\lambda < 0$, i.e. that a particular type of statements moves the level but also lowers the conditional variance of interest rates.
- ⁸ All interest rate data are constant maturity treasury rates provided by the U.S. Treasury.
- ⁹ These include the most standard variables used in the announcement literature, i.e. indicators of real activity (GDP, industrial production, unemployment, non-farm payroll employment, hours worked, retail sales), confidence indicators (ISM, consumer confidence, housing starts), prices (CPI and PPI) and the US trade balance. Monetary policy surprises are excluded as no statements on FOMC meeting days are included in the analysis.

Table 1: Summary statistics for communication by FOMC members

	Full sample	Split sample		
	1994-2007	1994-2000	2001-2007	of which: 2005-2007
Total number of :				
scheduled FOMC meetings	106	55	51	20
No purdah statements	415	139	276	140
Pre-FOMC purdah statements	46	31	15	2
Post-FOMC purdah statements	16	10	6	1
% share of FOMC meetings with purdah statements				
All purdah	42.5%	52.7%	31.4%	15.0%
Pre-FOMC purdah	34.0%	43.6%	23.5%	10.0%
Post-FOMC purdah	14.2%	16.4%	11.8%	5.0%

Note: The table shows, for the entire sample period February 1994 to June 2007, and various sub-periods, the number of FOMC meetings and of statements recorded (separately for the different inter-meeting sub-periods), as well as the share of FOMC meetings for which communication was recorded in the respective purdah periods. Note that for the % shares, numbers for “pre-FOMC purdah” and “post-FOMC purdah” do not add up to “all purdah” as in some instances purdah statements occurred in the purdah before *and* after the same FOMC meeting.

Table 2: Effect of communication on interest rates

	coef.	<i>std.err.</i>	significance vs.		
			(1)	(2)	(3)
MEAN					
(1) Pre-FOMC Purdah	0.043 ***	0.008		y	y
(2) Post-FOMC Purdah	0.002	0.008	y		
(3) No-Purdah	0.006 ***	0.001	y		
VOLATILITY					
(1) Pre-FOMC Purdah	0.102 **	0.042		y	y
(2) Post-FOMC Purdah	-0.307 ***	0.099	y		y
(3) No-Purdah	-0.050 ***	0.009	y	y	

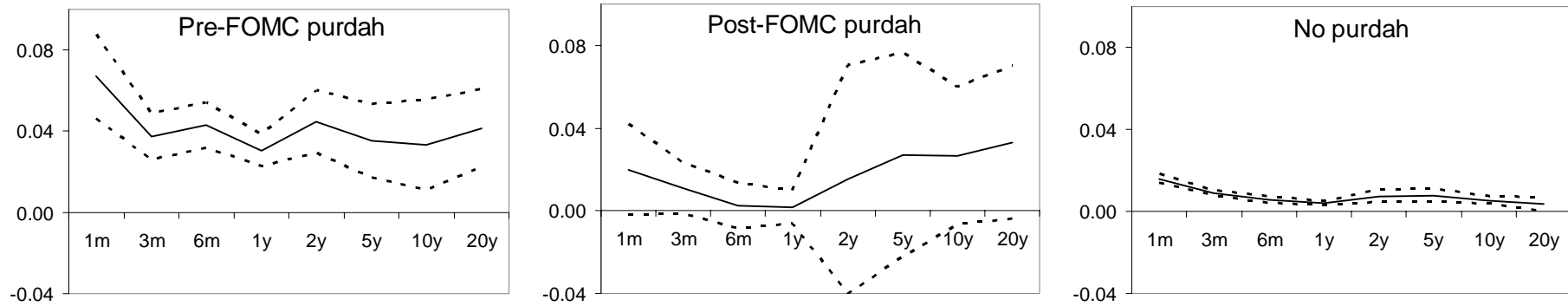
Note: The table shows the EGARCH estimates of the effects of statements in the pre-FOMC purdah, the post-FOMC purdah, and those outside the purdah period on the conditional mean and the conditional variance for US 6-month interest rates. ***, **, * indicate significance at the 99%, 95% and 90% levels, respectively. “y” indicates that the coefficient in a given row is significantly (at the 90% level) different from the corresponding coefficient in the row indicated by the number in brackets in the table header.

**Table 3: Effect of communication –
Characteristics of FOMC policy decisions and market uncertainty**

POLICY SURPRISE LAST FOMC MEETING					
	NO		YES		sig.
	<i>coef.</i>	<i>std.err.</i>	<i>coef.</i>	<i>std.err.</i>	
MEAN					
Pre-FOMC Purdah	0.081 ***	0.016	0.045 ***	0.015	y
Post-FOMC Purdah	0.009	0.013	0.506 ***	0.000	y
No-Purdah	0.010 ***	0.001	0.008 ***	0.002	
VOLATILITY					
Pre-FOMC Purdah	0.256 ***	0.064	-0.329 **	0.128	y
Post-FOMC Purdah	-0.419 ***	0.117	-1.129 ***	0.417	y
No-Purdah	0.003	0.010	-0.078 ***	0.026	y
INTEREST RATE VOLATILITY					
	LOW		HIGH		sig.
	<i>coef.</i>	<i>std.err.</i>	<i>coef.</i>	<i>std.err.</i>	
MEAN					
Pre-FOMC Purdah	0.044 ***	0.016	0.074 **	0.032	
Post-FOMC Purdah	0.012	0.013	0.003	0.041	
No-Purdah	0.008 ***	0.001	0.026 ***	0.002	y
VOLATILITY					
Pre-FOMC Purdah	-0.254 ***	0.078	0.684 ***	0.078	y
Post-FOMC Purdah	-0.576 ***	0.181	-0.461 ***	0.129	
No-Purdah	-0.057 ***	0.009	0.061 **	0.030	y

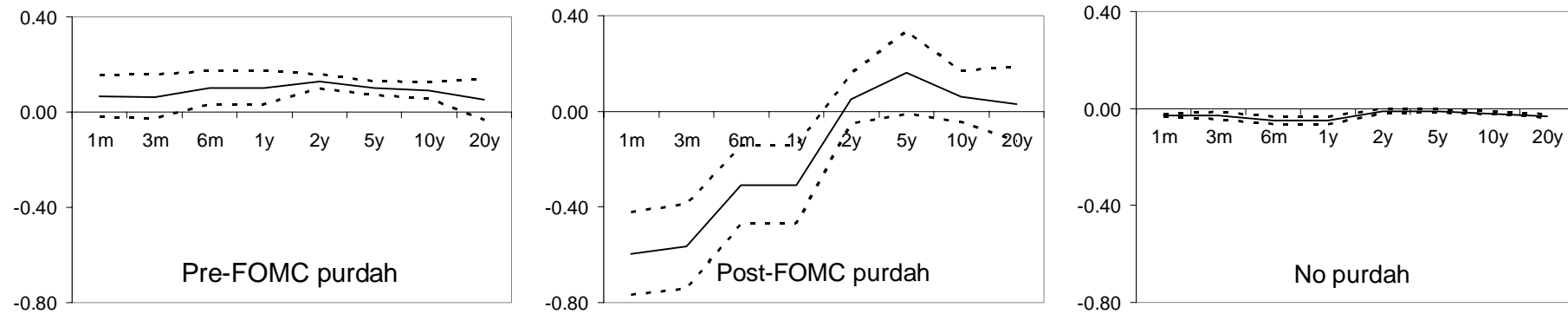
Note: Distinguishing between FOMC meeting characteristics, the table shows the EGARCH estimates of the effects of statements in the pre-FOMC purdah, the post-FOMC purdah, and those outside the purdah period on the conditional mean and the conditional variance for US 3-month interest rates. An interest rate surprise is defined to be present whenever the unexpected component of an FOMC decision – measured as the mean of Reuters survey expectations – exceeds its sample mean (which is 3.7 basis points over the whole sample period). Interest rate volatility is measured as the standard deviation of daily movements of 3-month rates in the inter-meeting period before the purdah. “High” volatility is defined for each period when this variable exceeds its sample mean over the whole period, and “low” when it is below. ***, **, * indicate significance at the 99%, 95% and 90% levels, respectively. “y” indicates that the two respective coefficients in each row are significantly different at the 90% level.

Figure 1: Effect of communication – Conditional mean across yield curve



Note: The figure shows the EGARCH estimates for the effect of statements in the pre-FOMC purdah, the post-FOMC purdah, and outside the purdah on the conditional mean of the different maturities of US interest rates ranging from 1-month to 20-year rates. Dashed lines indicate 90% confidence intervals.

Figure 2: Effect of communication – Conditional variance across yield curve



Note: The figure shows the EGARCH estimates for the effect of statements in the pre-FOMC purdah, the post-FOMC purdah, and outside the purdah on the conditional variance of the different maturities of US interest rates ranging from 1-month to 20-year rates. Dashed lines indicate 90% confidence intervals.