A Reassessment of Monetary Policy Surprises and High-Frequency Identification

A Comment

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This is an excellent paper that reexamines the effect of monetary policy surprises on macroeconomic activity using high-frequency methods of identification. Let me say up front that the paper is well-motivated, extremely clear in its findings, and a pleasure to read. There are two main innovations in this paper relative to the existing literature. First, following others in the literature, the paper shows that high-frequency monetary policy surprises are predictable based on lagged information contained in asset prices. Controlling for this predictability provides much sharper estimates of the effect of monetary policy on macroeconomic outcomes. Second, the paper incorporates information gathered in Swanson and Jayawickrema (2021) to construct monetary policy surprises based on communications by the Fed Chairperson that occur outside of the usual FOMC announcements. This greatly expands the sample available from which to construct measures of monetary policy surprises and further increases accuracy.

The paper also extends the modeling framework considered in the authors’ earlier work to motivate why monetary surprises may be predictable. In contrast to models that emphasize a "Fed information effect" regarding the state of the economy, their framework highlights the possibility that the Fed conveys information about its own policy rule.

The model in the paper is stylized but conveys two essential points. First, in an environment where the private sector learns about the monetary policy rule, high-frequency monetary surprises are predictable and impulse response estimates will be biased to the extent that there is systematic drift in the monetary policy rule. By controlling for lagged information, one can correct for such biases when estimating the impulse response. Second, the high-frequency response of asset prices to a monetary policy shock are unbiased as they reflect the same information asymmetry contained in the monetary policy surprise constructed using private sector beliefs.

The paper provides evidence regarding drift in the policy response to output and inflation that is consistent with this argument. In particular, the Fed’s monetary policy reacts more to both the output gap and inflation over time. Upward drift in the response to output and inflation imply attenuation bias in the estimated impulse responses of inflation and output to monetary policy shocks in an environment where the Fed is responding to demand shocks as in the model described in the paper. It is less obvious that this result follows in an environment driven by supply shocks however. Thus one might expect the degree of bias to be time-varying both because drift in the policy rule is time-varying and because the source of innovations varies over time. It would be interesting to extend the modeling framework to allow for such considerations. It is also worth noting that the two key empirical implications highlighted by the authors are also consistent with a Fed information effect in the sense that
models of a Fed information effect about the state of the economy would presumably have similar implications of no bias in the high-frequency asset price response but bias in the lower-frequency impulse responses.

In terms of the empirics, the paper confirms these key predictions, that i) high-frequency responses of asset prices remain unchanged when controlling for lagged information and ii) the output and inflation responses are much greater when controlling for lagged information.

Figure 3 shows this most clearly by comparing the response obtained in an SVAR with external instruments when one does and does not control for lagged information when constructing monetary surprises. These estimates imply that monetary policy shocks that control for lagged information have an effect that is four times larger (1.4 versus 0.35) than the standard Gertler-Karadi estimates. The authors argue that these estimates are in line with previous studies, but it is difficult to gauge exactly as past studies benchmark the shock size using the fed funds rate whereas here they are benchmarked as a 25 basis point increase in the two-year treasury rate upon impact.

To gauge magnitudes, I find it useful to compare Figure 3 to Figure 7. This allows one to understand how much more we gain from using information contained in lagged asset prices relative to professional forecasts when correcting for predictability. According to Figure 7, using only information contained in the Blue-Chip forecasts, a 100-basis point rise in the one-year treasury rate leads to a two percent drop in industrial output. As reported in Nakamura and Steinsson (2018), the high-frequency response of the one- and two-year treasury rates are roughly similar. They may also be considered unbiased estimates so that one can readily compare Figure 3 to Figure 7. Multiplying the output response in Figure 3 by a factor of four implies an output response of 5.6 percent to a 100-basis point movement in the two-year treasury rate. Thus, controlling for the information contained in lagged asset prices leads to an output response that is nearly three times larger than the response that one obtains by only using information contained in professional forecasts. This suggests that the bias in beliefs about monetary policy contained in asset markets must be quite strong to obtain such magnification.

As noted above, a major contribution of the paper is to provide additional information in the form of monetary surprises that occur in response to speeches by the Fed Chairperson. A key benefit of using this additional data is that it sharpens the inference in the first stage of the external SVAR-IV estimates. The low F-tests in these first-stage regressions has been a constant source of concern regarding inference in this literature.

There are three noteworthy empirical findings here. First, the high-frequency response of the stock market is much weaker when using Fed Chair speeches rather than FOMC events (-1.6 vs -5.39 according to Table 3) even though the response of the Treasury rates is essentially unchanged across the two types of surprises. In my mind, this provides strong suggestive evidence that Fed Chair speeches convey considerable information about the state of the economy. The second point to make here is that it appears to be even more important to
control for lagged information when using monetary policy surprises obtained from speeches from the Fed Chair. As the paper notes, this is perhaps not surprising as such speeches are difficult to decode without incorporating prior information. Third, the implied impulse response to output that includes monetary policy surprises obtained from including Fed Chair speeches is considerably attenuated relative to the response that only uses FOMC dates. The estimates in Figure 4 imply that a 25-basis point rise in the two-year treasury rate delivers a 0.6 percent drop in output rather than the 1.4 percent drop obtained when using only FOMC announcements to construct monetary surprises. Moreover, the two-year treasury response is quite persistent in contrast to the case where one only looks at FOMC announcements to construct monetary policy surprises. On the whole, the estimated responses of output and inflation obtained from using additional information from Fed Chair speeches look more in line with previous estimates in the literature.

The authors don’t offer an explanation as to why one would obtain an attenuated response when using speeches from the Chair as monetary surprises. One possibility is that Fed Chair speeches convey a stronger information effect that is not reflected in lagged asset prices leading to attenuation bias. Alternatively, it is worth noting that the estimated response of the excess bond premium is significantly larger both in absolute terms and relative to output in the case of monetary surprises associated with FOMC meetings relative to the estimates that also incorporate the Fed Chair speeches. Perhaps these surprises are particularly disruptive to the financial sector or, conversely, Fed Chair speeches are considerably less disruptive to the financial sector?

A running theme throughout the paper is whether the predictability of monetary surprises is due to learning about policy or learning about the state of the economy. The paper does a nice job showing that Greenbook forecasts don’t appear to contain information that is not already available in private sector forecasts. On the other hand, existing evidence from the high-frequency response of asset prices to monetary policy shocks suggests a role for an information effect. Golez and Mathies (2021) show that although stock prices fall in response to monetary policy tightenings, the price of dividend strips that convey information about near-term cash flows actually rises. In ongoing research, Gilchrist, Zhang, and Zhao (2022) confirm this finding and show that, adjusting for the response of interest rates, the expected cash flow component rises by 50 basis points over the one-year horizon in response to a monetary tightening of the size considered in Table 2. As this paper emphasizes, we can treat these responses as an unbiased estimate of the market’s change in beliefs. Thus, on average, at least over the period when dividend strip data are available (post 2004), a Fed tightening does indeed convey considerable positive news about the state of the economy.

The paper is careful to articulate that regardless of the source of predictability in monetary surprises, one should control for it using lagged information contained in private sector forecasts and asset prices. This paper does an excellent job documenting such predictability and the effect that it has on estimates of the response of the macroeconomy to monetary policy shocks. It also provides a new time-series of monetary policy surprises based on Fed Chair speeches that will be widely used in the literature. On both of these dimensions, the paper
makes an outstanding contribution to the existing literature on the identification of monetary policy shocks and their estimated effects on the macroeconomy. I expect that the “best practice” methods recommended here along with the additional data will be quickly and widely adopted in the literature.

References:


