Identifying Noise Shocks: a VAR with Data Revisions

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Information about economic variables contains some degree of noise, i.e. it is to some extent the result of mismeasurement rather than fundamental economic activity. Data revisions are a symptom of that. Since agents cannot generally afford to wait for revised data to make their economic decisions these mismeasurements can have an effect on the macroeconomy, which we try to quantify.

In particular, we propose a new VAR identification strategy to study the impact of noise shocks on aggregate activity, focusing on the US economy. We do so exploiting the econometrician's benefit of hindsight, i.e. the fact that she can observe both what in model would be considered the signal and the underlying fundamental on which the noise shock applies. By carrying out our analysis in a VAR, we can afford to remain agnostic about the underlying drivers of data revisions, restricting only the timing of the responses by assuming that the fundamental value does not contempouraneously respond to the noise shock. An assumption that amounts to saying that the early data release is not published until the decisions for the current quarter have been made.

We also show how our identification strategy can, under certain conditions, uncover the noise shock even when data revisions are driven by news, i.e. the revision is not orthogonal to the fundamentals.

Our empirical exercise shows qualitative similarities between the responses to a noise shock and a demand shock, primarily the negative correlation of the output and unemployment responses.

However, the responses to noise shocks are much smaller (about a third in size at the peak) than those to demand shocks.
Namely, our analysis quantifies the contribution of noise shocks to around 4-8 percent of the variance of output growth and unemployment.