



# Research Program on Forecasting

## **Comments on Doavern, Fritsche, Loungani and Tamirisa (forthcoming)**

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By Olivier Coibion, UT Austin and NBER

I'm delighted to have the pleasure to provide comments on this very interesting paper presented at the *IJOF* conference honoring Herman Stekler. Few have contributed as much as Herman in studying the properties of real-time forecasts of different economic agents. And because the nature of agents' economic expectations is fundamental to most economic decisions (how much to purchase or save, what price to set, whether to hire or fire workers, etc...), it is difficult to overestimate the importance of Herman's many contributions.

Dovern, Fritsche, Loungani and Tamirisa build on this long tradition by assessing the properties of the real-time forecasts of professional forecasters for a wide range of countries surveyed by Consensus Economics. They do so within a novel empirical framework which is closely tied to two classes of models of information rigidities. In sticky information models (e.g. Mankiw and Reis 2002), agents update their expectations infrequently but when they do update their information, they acquire full information rational expectations. In noisy (or imperfect) information models (e.g. Woodford 2001, Sims 2003), agents are continuously updating their information but, because they receive only noisy signals about the underlying state, never acquire full information rational expectations. Dovern et al. (2013, DFLT henceforth) show that both types of models yield a simple relationship between average forecast revisions across agents ( $r_{i,t,h}$  is the average revision in forecasts at time  $t$  for horizon  $h$  for country  $i$  across agents)

$$r_{i,t,h} = \kappa r_{i,t-1,h} + ree_t$$

in which revisions in average forecasts should be predictable using lagged forecast revisions for the same horizon.

This result is useful for several reasons. First, it nests full information rational expectations as a special case ( $\kappa = 0$ ), so one can readily assess this null hypothesis. Second, the error ( $ree_t$ ) is the rational expectations error, uncorrelated with information date  $t$  and earlier, so this specification can directly be estimated by OLS. Third, the parameter  $\kappa$  maps directly into underlying degrees of information rigidities so that this specification can assess not just the null of full-information rational expectations but also the economic significance of rejections of the null. Each of these advantages is shared with the related procedure proposed in Coibion and Gorodnichenko (2010) in which ex-post average forecast errors are regressed on ex-ante average forecast revisions across agents. But the approach suggested here has two additional advantages over this alternative. First, because it relies on forecast revisions rather than forecast errors, the econometrician does not have to take a stand on which version of the ex-post data to use to construct forecast errors (e.g. advanced estimates of real

GDP vs. final estimates). Second, the parameter  $\kappa$  maps linearly into underlying degrees of information rigidity from each model (frequency of unchanged expectations in sticky information and weight on past beliefs in noisy information) whereas the approach in Coibion and Gorodnichenko (2010) requires nonlinear transformations of estimated coefficients. Thus, the approach developed in this paper yields a simpler and more tractable framework for quantifying information rigidities.

In addition to this methodological contribution, the authors document several empirical regularities, based on their framework, that are of immediate interest. First, using a large dataset of forecasts from professional forecasters for a range of countries covered by Consensus Economics, they find an average estimate of information rigidity very much in line with Coibion and Gorodnichenko (2010): equivalent to forecasters update their forecasts every six months on average in sticky information models or placing approximately equal weight on new information and prior beliefs in the context of noisy information models. This is an economically significant degree of information rigidity based on a much larger sample of forecasters than considered in previous work. Thus, this result adds on to the growing body of evidence documenting the pervasiveness of information rigidities in the expectations formation process of economic agents.

Second, because of the uniqueness of the dataset employed, DFLT are able to consider a wider-range of cross-country estimates than in previous work. They document, for a start, that the degree of information rigidity is broadly similar across developing and advanced economies. The authors also provide country-specific estimates of information rigidity for 36 countries, of which 14 are advanced economies and 22 are developing economies. The results point toward significant differences in estimates of information rigidities across countries, as found in Coibion and Gorodnichenko (2010) in a more limited cross-section of advanced economies. Future work should exploit this cross-sectional variation to characterize the determinants of information rigidities. For example, this variation could be related to macroeconomic volatility and institutional characteristics, such as the nature of exchange rate regimes, monetary policy independence, etc... Such an approach could shed new light on both the underlying determinants of information rigidity as well as how endogenous variation in information rigidity affects macroeconomic outcomes. Another useful extension of these results would be to decompose estimates of information rigidity according to whether professional forecasters are domestic or foreign. Because the two likely have different incentive structures in keeping up with economic developments, a natural test would be to consider whether implied degrees of information rigidities are lower for domestic forecasters than foreign forecasters.

Third, the authors follow Andrade and LeBihan (2013) and measure directly the rate at which individual forecasters fail to change their forecasts, a direct metric of sticky-information as in

Mankiw and Reis (2002). Like Andrade and LeBihan (2013), they find that these measures of information stickiness are much lower than what is found from the predictability of forecast errors, which suggests that sticky information (at least interpreted in the narrow sense of forecasters not changing their forecasts at all for extended periods) is not the key friction underlying professional forecasts. Instead, this suggests that noisy information models of the expectations formation process may be a more promising avenue to pursue in modelling this type of agent's information processing problem.

In short, this paper provides a helpful methodological extension of the approach suggested in Coibion and Gorodnichenko (2010) and implements it using an exceptionally wide ranging dataset. The results further reinforce the growing body of evidence on the pervasiveness of information rigidities, even in the expectations of some of the most informed economic agents. The authors also provide new facts on the cross-country variation in information rigidities which future work can exploit to delve more deeply into how policy institutions affect the expectations formation process.

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**References:**

- Andrade, Philippe and Herve LeBihan, 2013. "Inattentive Professional Forecasters," forthcoming in *Journal of Monetary Economics*.
- Coibion, Olivier and Yuriy Gorodnichenko, 2010. "Information Rigidity and the Expectations Formation Process: A Simple Framework and New Facts," NBER WP 16537.
- Dovern, Jonas, Ulrich Fritsche, Prakash Loungani, and Natalia Tamirisa, 2013. "Information Rigidities in Economic Growth Forecasts: Evidence from a Large International Panel," forthcoming in *International Journal of Forecasting*.
- Mankiw, N.Gregory, Ricardo Reis, 2002. "Sticky Information Versus Sticky Prices: A Proposal to Replace the New Keynesian Phillips Curve," *Quarterly Journal of Economics* 117(4), 1295-1328.
- Woodford, Michael, 2001. "Imperfect Common Knowledge and the Effects of Monetary Policy," published in P. Aghion et al., eds., *Knowledge, Information, and Expectations in Modern Macroeconomics: In Honor of Edmund S. Phelps*, Princeton Univ. Press, 2002.
- Sims, Chris A., 2003. "Implications of Rational Inattention," *Journal of Monetary Economics* 50(3), 665-690.