Comments on "The pass-through from short-horizon to long-horizon inflation expectations"

by Masazumi Hattori[1]

In this paper, James investigates the evolution of the degree of the pass-through of short-term inflation forecasts to long-term inflation forecasts by using professional forecaster survey data and finds the anchoring of inflation expectations is stronger in many of the sample economies in recent years, especially in ones with inflation targeting in monetary policy. Based on the empirical findings, he judges that the recent missing inflation is transitory.

I think that his explanations on research motivation, data features, estimation methodology and empirical findings are very lucid. The estimations are solid and his interpretation of the estimation results are convincing.

My discussion of his paper consists of four parts. First, I discuss positioning of his paper in the literature. Second, I suggest some possible extensions. Third, I pose some questions. Finally, I point to some caveats that are not specific to his paper but rather general to works in the relevant research fields.

1. Positioning of James's paper in literature

New Keynesian monetary model and pass-through

In the grand literature of New Keynesian monetary theory, a purely theoretical form of the New Keynesian Phillips Curve (NKPC) includes an inflation expectation term and a contemporaneous forcing variable such as unemployment rate and GDP, often in the form of slack, or labour share of income. For empirical estimations, a modified version such as hybrid NKPC that has a lagged actual inflation rate as a persistence term in addition to the two terms in NKPC is used, because of its higher fitting in empirics.

James uses the term pass-through to define the effects of changes in short-term inflation expectations on long-term inflation expectations in a certain economy. Such a concept does not seem to be orthodox in the NKPC; long-term inflation expectations affects current inflation rates, according to the NKPC. My first attempt is to discuss the linkage between the NKPC literature and James's pass-through, thereby explaining the importance of knowing the degree of the pass-through to give an important policy related judgement based on the New Keynesian monetary theory.

The canonical New Keynesian model for empirical studies typically consists of three equations: a hybrid NKPC for inflation rate determination explained above, the dynamic IS curve determining current output (gap) and a Taylor rule describing the

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central bank's decision-making on policy rate, ie short-term nominal interest rate. Mavroeidis et al (2014) calibrated impulse responses to a transitory shock based on the canonical New Keynesian model and show that short-run dynamics of inflation and time necessary for inflation to return to the steady state vary, depending on the value of the parameter for weight on inflation expectations in the hybrid NKPC. A general result is that if the long-run inflation expectations are stable and the weight on inflation expectations in the hybrid NKPC is large, the actual inflation rate will go back to the anchored level in a relatively short time in response to a deflationary transitory shock.

A crucial question is whether the recent actual inflation dynamics, ie missing inflation vis-à-vis shrinking slack in labour market and production potential in many sample economies typically exemplified by the United States, are affecting the long-run inflation expectations; if the answer is "yes", we cannot judge the missing inflation as a transitory phenomenon.

The answer to the question by James's paper is basically "no" or at least "much less than before." The conclusion reinforces the logic of the New Keynesian model for judgment on missing inflation as a transitory phenomenon. This is where James's paper contributes to the literature of New Keynesian monetary theory.

Definitions of anchored inflation expectations

Kumar et al (2015) categorise definitions of anchored inflation expectations. James's interest in this paper is closely related with one of them that is coined "increasingly T-anchored" inflation expectations. This definition means that at a certain time in a time horizon beyond T, every agent's inflation expectations are within a certain small range around the average belief. In plain English, agents' inflation expectations show convergence to the average in the long run from a sampling timing. [2]

A prediction from increasingly T-anchored inflation expectations is "long-term inflation expectations should be unpredictable by using short-term inflation expectations." This prediction is exactly what James investigates.

2. Some possible extensions

In line with the concept of increasingly T-anchored inflation expectations, I would like to suggest a few possible extensions to this paper.

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[2] The precise definition of increasingly T-anchored is as follows: Given a sequence $\{\varepsilon_\tau\}_{\tau=0}^{\infty}$ at time t, inflation expectations are increasingly T-anchored at time t if for any horizon $\tau \geq T$, expectations are strongly ε_τ-anchored. Here, "strongly ε-anchored" means that inflation expectations at time t for any horizon $\tau \geq 0$ are strongly ε-anchored if the support of every agent's inflation expectations at that time and horizon lies within ε of the average belief. To be strict, what James's paper is on "quasi" increasingly T-anchored inflation expectations because the survey data, Consensus Forecasts, only include means of professional forecasters' forecasts on long-term inflation rates and the distributions of individual forecasters' forecasts are not available.

More on T in increasingly T-anchored inflation expectations

You can assess the degree of anchoring beyond different forecast horizons. That is, you can choose x-year ahead for T in increasingly T-anchored inflation expectations. Professional forecasters' forecasts on the current year, next year, two-year ahead, three-year ahead, four-year ahead and five-year ahead horizons are available from the same dataset in addition to the six – ten year ahead horizon that James uses. By using two-, three-, four-, and five-year ahead forecasts, you can do more granular analysis, featuring varied categories of sample economies, ie advanced economies vs emerging market economies, economies with inflation targeting vs ones without inflation targeting and so on.

One conjecture is that economies with inflation targeting have a smaller T for the same degree of anchoring than ones without inflation targeting; smaller pass-through coefficients on average for the economies with inflation targeting than the ones without it in a four-year time horizon, for example. As a casual check, you can collect economies with a stable six – ten year ahead forecast levels and compare the trajectories of forecasts between economies with and without inflation targeting; the formers would have a smoother trajectory from the short end to the long end.

More on time variation of the pass-through coefficient for T

For any T, it is possible to use a more advanced methodology than subsample period regressions to investigate the evolution of the pass-through. For example, a time-varying parameter (TVP) regression using a non-linear Kalman filter or a Bayesian estimation is applicable. You can get time series of estimates of the values of the pass-through coefficient for each economy with more precise timings of the change in the values. Then, you can compare the time series of estimates of the coefficients in more detail. For example, one conjecture is that the advanced economies see decreases in the coefficient values earlier than the emerging market economies, reflecting the timings of involvement in the global economy and financial markets or an understanding of the value of price stability.

A data issue arises for this extension. James uses semi-annual survey data. A more precise estimation of time variations in the pass-through coefficient will need higher frequency data. As exemplified in International Monetary Fund (2013), quarterly frequency data will measure up to it. Actually, the quarterly dataset for the same survey from the same survey firm, Consensus Economics, are available for an extra license fee.

3. Some questions

Potential endogeneity between short-term and long-term inflation forecasts

Some factors could affect both short-term and long-term inflation expectations reflected in the forecasts. If this is the case, there could be endogeneity between short-term and long-term inflation forecasts, which could result in bias in the estimate of the pass-through coefficient in the regressions. An appropriate instrument variable

to control the potential endogeneity could solve this problem but the regression design in this paper does not resort to the methodology. The potential endogeneity issue is worth considering. This concern is similar to cases of estimations on terms in the NKPC, in which endogeneity between terms is often an issue.

However, my humble opinion is that the issue will not jeopardise James's work. It is highly likely that a missing factor, if any, will affect short-term and long-term inflation expectations in the same direction. I immediately think of the effects of the expansion of shale oil production capacity in the United States that will have deflationary effects on both short-term and long-term inflation expectations. Endogeneity between short-term and long-term inflation forecasts in the same direction in the regressions results in a higher estimated value for the pass-through coefficient, β, than in reality, ie upward bias in the estimate. James showed the estimate of β is small and smaller than before in many economies, thereby concluding the pass-through from the short-term to long-term inflation expectations is to a low or much lower degree there. Hence, the potential upward bias would not counter his conclusion, albeit unprecise estimate if any.

The reason to use short-term inflation forecasts instead of actual inflation rates

I first wondered why James uses short-term inflation forecasts instead of actual inflation rates, or inflation surprises like Kose et al (2019), as the regressor. Is there a superiority issue from the theoretical or empirical perspectives? Or perhaps a technical issue in practice? One supportive opinion for it would be that using the survey data from the same group of respondents will result in consistency in empirical exercises.

In his presentation, James elaborated on the reason that is referred to in the paper; actual inflation rates can be considerably subject to very short-run disturbances while the short-term inflation expectations are expected to reflect fundamentals for current inflation. I now see a more convincing reason.

4. Some caveats

Use of professional forecasters' forecasts

Empirical results in some preceding literature could imply an overestimation of influence of inflation targeting on inflation expectations anchoring in an economy due to the use of professional forecasters' forecasts as variables in the regression analyses in this paper.

Kumar et al (2015) report that firm managers in New Zealand have limited knowledge of the inflation targeting by the Reserve Bank of New Zealand (RBNZ), despite its 25-year tradition; only 12% of respondents to a unique survey knew the correct rate of inflation targeting, ie 2%. Other answers included 1% or 3%" (the bottom and top of the target range) by 25% of the respondents and higher than 5% by 36% of them including 5% respondents choosing 10% or more.

Coibion et al (2018) considered how firm managers revise their macroeconomic expectations in response to new information in New Zealand. The sensitivity of firms'

inflation expectations to new information was much higher than for real economic variables. Firms revised their inflation forecasts by most in response to information about the NZRB's inflation targeting, ie the target rate of 2%. Moreover, the effect for the revision dissipated within six months.

Professional forecasters in an economy are the most knowledgeable agents in the private sector on inflation targeting in the economy. If the attraction force of the target rate for agents' inflation forecasts operates, estimations using professional forecasters' forecasts could result in an overestimation of influence of inflation targeting in the economy. If the attraction force of the target rate is stronger for agents' long-term inflation forecasts than their short-run inflation forecasts, which is quite plausible, estimations using professional forecasters' forecasts in light of increasingly T-anchored inflation expectations could result in an overestimation of influence of inflation targeting too.

Transitory… how long?

What is the actual time frame of a "transitory" period? We witnessed missing deflation for about five years immediately following the Global Financial Crisis (GFC) and successive missing inflation for about five years. One convincing background for these phenomena that is consistent with the standard New Keynesian monetary theory is strongly anchored long-term inflation expectations. The question then becomes: What kind of shocks and propagation mechanisms are the background for the transitory phenomena if they are truly transitory? This question is beyond the scope of this paper.

5. Concluding remarks

The paper is crisp and sharp. The paper is an important contribution to the literature on long-term inflation expectation anchoring, providing insight on recent inflation dynamics. Extensions are possible on the time variation of the pass-through coefficient for various forecast horizons. Some general caveats are applicable to this work as well.

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