Comments on "Has the Inflation Process Changed?"
by Stephen Cecchetti and Guy Debelle

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1. Summary

- The objective of this paper is to measure the degree of inflation persistence for different countries and for different components of the CPI.
- The main finding is that inflation persistence is much lower after controlling for mean shifts.
- This paper belongs to a recent but intense literature that has looked at reduced form measures of inflation persistence from univariate time series models.
- Its findings essentially agree with those of other papers using different subsets of countries or sectors, and other statistical measures of persistence.
- What makes this paper particularly useful is that it is the most comprehensive study of its kind to date.

Mean breaks and persistence

- Results are based on the observation that, since mean inflation differs for different time intervals, measured correlation between inflation and its lags will depend on how much change is allowed in the means.
- If there is a mean break but we ignore it, it will be mistaken for persistence.
- But if we allow for inexistent mean breaks, estimated persistence may be downward biased.
- Also if there are two types of shocks to inflation (high and low persistence), using mean breaks will tend to mitigate the contribution of the persistent shocks to an overall measure of persistence.
- This raises doubts on the appropriate measure of persistence in the absence of prior information about regime shifts.
- In choosing a measure of persistence as a guide for monetary policy we are forced to take a stand on the nature of shifts in mean inflation.
- Is high inflation a thing of the past? i.e. is our prior of the mean inflation process such that we would assign no weight to the possibility of further shifts in mean inflation in calculating inflation forecasts?

Mean breaks and persistence (continued)

- So a general worry is that an agnostic univariate TS analysis may not be able to separately identify the mean process and the amount of dependence around it, so that we are faced with a menu of estimates of persistence ranging from low to high depending on the choice of technique.
- The nice aspect of the present paper is the use of components of inflation within countries, which help in making inferences about the size and timing of breaks. More follows..

Timing of the breaks

- Why not estimating persistence for each of the commodity groups in a country (including the aggregate) imposing the same time for the breaks in the means?
- This possibility is in line with the univariate approach adopted in the paper and seems promising in view of the evidence of clustering of breaks.
- It is statistically meaningful because we can get more reliable estimates of mean shifts. The width of the confidence interval for the break date does not decrease with sample size, but it is inversely related to the number of series which have a common break date (Bai et al).
- It is also economically meaningful because we expect common breaks, since that would be the case for changes in monetary policy regimes.
- If doing this we still get a low level of persistence in the aggregate CPI, then we can have greater confidence in the conclusions.
- Another possibility would of course be to use explicit determinants of the long run mean inflation, such as indicators of monetary policy regimes or of methodological changes in price measurement.

Breaks in means and breaks in volatility

- The paper examines the possibility of association between breaks in means and breaks in persistence.
- It would be of interest to test for a break in the mean allowing simultaneously for a break in the volatility of inflation shocks.
- Such a procedure would be coherent with evidence that high inflation is associated with high inflation volatility, and lead to a better determination of breaks.

Implications for targeting

- The conclusion that there is no need to target high rigidity sectors because the aggregate inherits the properties of the most persistent components may be premature.
- The result of Altissimo, Mojon, and Zaffaroni shows that the persistence of the aggregate critically depends on the form of the heterogeneity of persistence measures across sectors (e.g. how much mass there is near unity), which itself varies from one country to another.
- The illustration in Box 1 suggests that caution is needed. There we have two component series, one has persistence of 0.1 and when the other has persistence of 0.95, the persistence of the aggregate is only 0.58. Targeting a degree of persistence of .58 may be very different to targeting one of .95.

Implications for theories of price determination

- It is not clear how strong is the claim that finding reduced-form low inflation persistence is more supportive of price determination theories than those of the previous literature.
- To make that link, at a minimum one would have to measure the partial effect of lagged inflation net of changes in marginal costs, but I agree that this could be the subject of another paper.
- The paper reports a strong negative correlation between persistence and variability in shocks.
  - Suppose for the sake of the argument that persistence and variability were the same for all series.
  - In that case the correlation between the estimates of persistence and variability would exclusively capture the correlation in the sampling distribution of the estimators of the two quantities, because the two estimates are calculated from the same data.
- Since sampling covariances could be large, it would be useful to assess to what extent the estimate of the substantive correlation of interest is affected by sampling errors.

Other comments on the results

- There is a substantial degree of persistence in important countries after allowing for three breaks: Italy, France, Germany, Belgium, Japan.. so that we may still have an inflation persistence puzzle relative to theoretical predictions.
- Results for shorter periods are less interesting (in the sense that breaks are less interpretable and noisier)
- Table 1: In 11 countries we observe fluctuations in mean inflation (mean inflation rises, then falls), which is hard to reconcile with the result of a one-off credibility battle.