

Comments on
Forecasting inflation through a bottom-up
approach: How bottom is bottom?

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1 Key aspects of paper

- empirical paper
- compares different degrees of disaggregation wrt to forecasting CPI inflation in Portugal
- Question: Forecasting using a model for aggregate CPI inflation $\pi_{T+h|T}$ or aggregating forecasts of subcomponents $\pi_{i,T+h|T}$ with fixed known weights w_i

$$\pi_{T+h|T} = \sum_i^N w_i \pi_{i,T+h|T} \quad (1)$$

- contributions of paper:

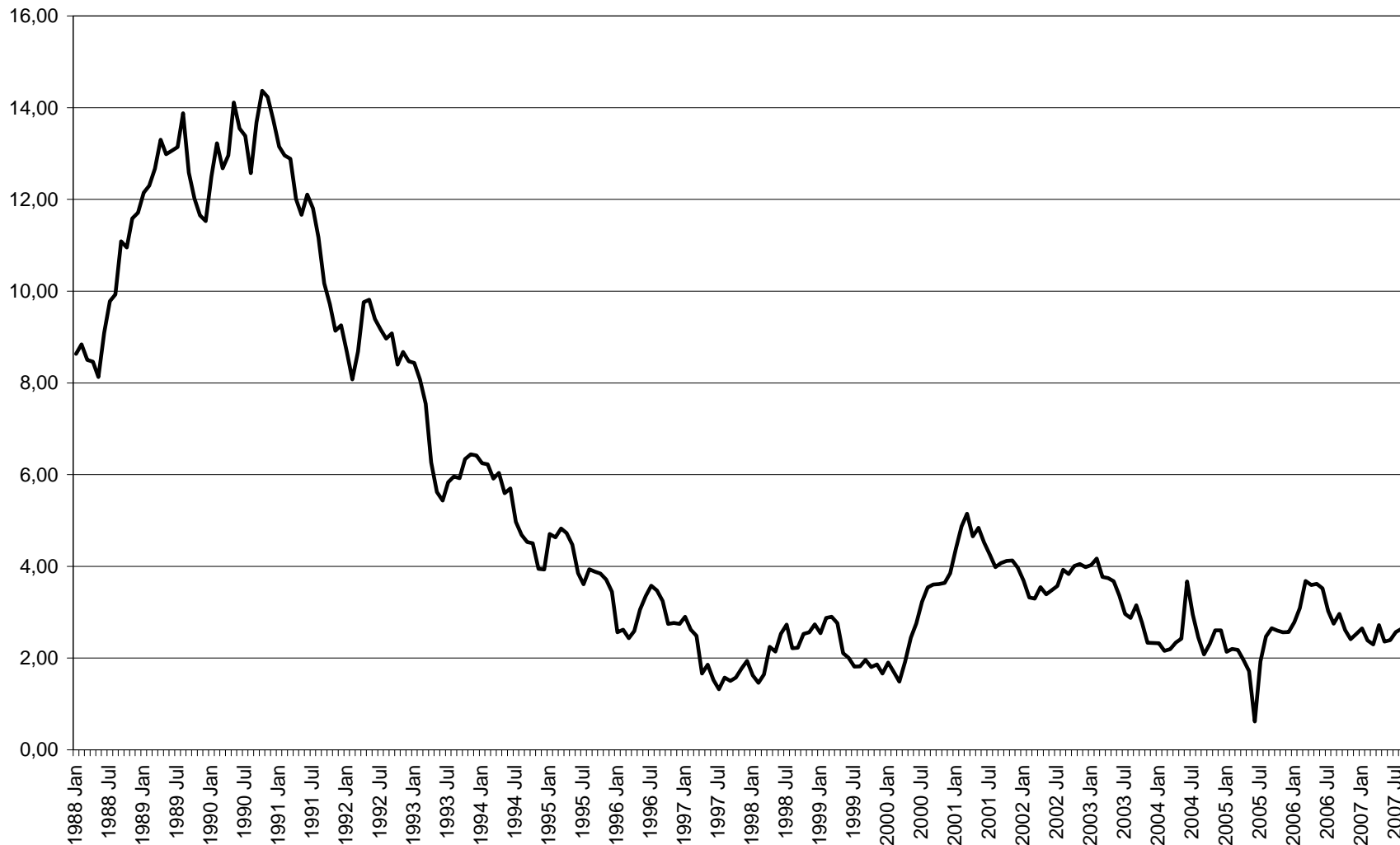
1. considering highly disaggregated price data (59 time series) and moderately disaggregated data (5 subgroups) vs aggregated CPI inflation
2. for each CPI component, a SARIMA model based on seasonally unadjusted data is applied
3. alternatively, factor-augmented SARIMA is applied with factors estimated by PCA from the highly disaggregated price data

2 General: Forecastability of Portuguese inflation

- estimation period: 1988-2000; evaluation period: 2001-2004
- nice result of paper: (disaggregated) forecasts have some information content for future inflation compared with naive benchmarks
- open question: will this result hold for post 2004 inflation?

2.1 Inflation in Portugal

- inflation dynamics have considerably changed in Portugal
- strong disinflation since the late 80ies towards European Monetary Union
- empirical fact similar to 'Great Moderation', but perhaps for different reasons with different timing



Portugese Inflation 1988-2007

2.2 Implications for inflation forecasts

- forecast evaluation period from 2001-2004 exhibits downward trend as in the in-sample period
- but what happens after 2004?
- Portugal still converging to lower inflation rates and lower volatility? High-frequency movements around a constant?

- in this case, one could end up with the same forecast breakdown as in US, see Campbell (2007) JBES, D'Agostino, Giannone, Surico (2006) ECB WP
- similar Euro area evidence: in Germany, CPI inflation is very stable and difficult to predict
- perhaps a problem: debate on aggregation vs. disaggregation and also this paper disregards time-varying nature of inflation

→ allowing for time-variation could be interesting extension

3 General: Aggregation versus pooling

- if the task is to forecast aggregate inflation alone, one could also consider alternatives to aggregation
- one could employ different types of forecast pooling with weights determined in order to minimise MSE:
 1. Hubrich and Hendry (2007) use alternatively equal weights pooling
 2. more sophisticated combination schemes are also possible, see Timmermann (2006) HandbEcForec

→ so far, there is no comprehensive assessment of pooling vs. aggregation

4 General: Data selection for factor forecasting

- paper result: factor forecasts improve only a little bit over univariate forecasts and at short horizons only
- 59 disaggregated inflation series are used to estimate the factors
- why no other macro time series? Financial, real, foreign variables etc.
- paper makes reference to one paper to support this choice, but there is no general consensus about the composition of the data set in the literature

- split in the literature: core inflation papers often use disaggregated price data, too
 - factor forecast papers in general use much broader sets of information
 - open issue: how to effectively exploit the vast amount of data available? See Boivin and Ng (2005) *JoEctracs*; Bai and Ng (2006) targeted predictors
- more work needed to determine the size & composition of factor datasets...

5 Details: Seasonal adjustment and factor forecasting

- factors estimated from seasonally adjusted data
- forecast equation for inflation has SARIMA form: contains explicit terms to model seasonal patterns
- somewhat inconsistent treatment of seasonality

- alternatives:

1. disaggregated seasonal unadjusted data could have seasonal factors, no reason not to consider factors estimated from unadjusted data
2. use only seasonal adjusted data also for the forecast equations

6 Overall assessment

analysing different degrees of aggregation is nice contribution of paper

→ however, changes in dynamics not explicitly considered

→ methods for effectively using the disaggregated information for forecasting are needed!