Domestic and Global Inflation

Filippo Ferroni and Benoit Mojon

Discussion by Jonathan Wright

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Summary of Paper

- Global inflation can help forecast and explain domestic inflation, updating Ciccarelli and Mojon (2010)
- Decomposition of inflation since the Great Recession
Two initial observations

Why?

Mechanism for importance of global inflation mysterious

Research that has looked for role of global slack in Phillips curve has generally not found much (Ihrig et al. (2010))

Kiley (2014) argues that Phillips curve is *really* local

Import price pass-through is small in US, and has declined
Level of inflation

- Did an AR(2) forecast for US CPI inflation 2009Q2-2013Q3
- Average year-ahead forecast level: 2.7
- Average actual level: 1.7
- Should think about bias in forecasts
Shifting trends

- Trend component of inflation shifted over time
- Paper considers regression:

\[ \pi_t = \alpha_1 \pi_{t-1} + \alpha_2 \pi_{t-2} + \beta_1 \pi^f_{t-1} + \beta_2 \pi^f_{t-1} + \varepsilon_t \]

**Results (U.S.)**

<table>
<thead>
<tr>
<th></th>
<th>( \alpha_1 )</th>
<th>( \alpha_2 )</th>
<th>( \beta_1 )</th>
<th>( \beta_2 )</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>0.80***</td>
<td>-0.23*</td>
<td>0.15**</td>
<td>-0.12*</td>
</tr>
</tbody>
</table>

**Note:**
- \( \alpha \) and \( \beta \) coefficients are estimated.
- \( \varepsilon_t \) is the error term.
- **Significance Levels:**
  - ***: p < 0.01
  - **: p < 0.05
  - *: p < 0.1
Shifting trends

Trend component of inflation shifted over time

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Alternative regression in gap form:

\[ g_t = \alpha_1 g_{t-1} + \alpha_2 g_{t-2} + \beta_1 g_{t-1}^f + \beta_2 g_{t-1}^f + \varepsilon_t \]

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<td>0.89***</td>
<td>-0.25*</td>
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Main comment

- Paper omits shifting trends in inflation
- Causes inflation forecasts to be biased
- Global factor could be a proxy for the trend
Main comment

5-10 Year Ahead Survey Inflation Forecasts for Ten Economies

Japan
Main comment

- Explanation for global factor could be convergence in $\pi^*$
- Ran regression $\Delta \tau_{it} = \beta (\tau_{it-1} - \tau_{wt-1})$
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Results

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<tr>
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</tr>
<tr>
<td>Canada</td>
<td>-0.24**</td>
</tr>
<tr>
<td>Germany</td>
<td>-0.97***</td>
</tr>
<tr>
<td>Japan</td>
<td>-0.87***</td>
</tr>
<tr>
<td>UK</td>
<td>-0.55***</td>
</tr>
<tr>
<td>Norway</td>
<td>0.01</td>
</tr>
<tr>
<td>Sweden</td>
<td>-0.78***</td>
</tr>
<tr>
<td>Switzerland</td>
<td>-0.71***</td>
</tr>
<tr>
<td>Australia</td>
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<td>New Zealand</td>
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Econometric comments

1. Paper uses quarterly data on year-over-year inflation
   - Effectively applying an MA(4) filter
   - In autoregression for US, BIC picks 6 lags

2. Out-of-sample period is 2009-2013
   - Probably too short for statistical significance

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Recent behavior of inflation

Change in Core PCE Inflation from Trough

- Years
- Percent

2007-2009
Recent behavior of inflation

Change in Core PCE Inflation from Trough

- 2007-2009
- 1990-1991
- 2001
Recent behavior of inflation

- Paper does VAR-based historical decomposition of inflation into structural shocks
- Doesn’t allow for any change in propagation mechanism
- Suggest looking at stability of VAR coefficients
Measurement of inflation

- Paper measures inflation by CPI
- Not revised much
- But measurement issues are really consequential
Different Inflation Measures

Percent Inflation from Year Earlier

- Core PCE
- Median CPI
Data Revisions

Percent Core PCE Inflation from Year Earlier

Apr 2012 Vintage
Current Vintage
Missing disinflation or missing inflation?

Two forecasts of inflation in 2008/09:

▶ Ball-Romer: Severe recession should cause large drop in inflation
▶ Feldstein: Accommodative monetary policy should drive inflation up
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Should ask inflation worriers about the *missing inflation*
Conclusions

- Thought-provoking paper
- Would think more about shifting inflation trends