International Inflation Spillovers Through Input Linkages
Auer, Levchenko and Sauré

An Open Economy Model of Trend Inflation
Kamber and Wong

Discussion
Benoit Mojon (Banque de France)

ECB conference : Understanding inflation
ECB, Frankfurt 21-22 September 2017
Outline

• ALS find that PPI inflations
  – are more “correlated” than cost spill overs would suggest =>
    inflation is largely “global”
  – Common/global inflation is “sectoral”

• KW find that trend CPI inflation is essentially “domestic”
  – Deviations from trend is “sectoral”, i.e. oil

• 3 main comments
  – Is inflation is low today because of oil prices?
  – “Domestic” wage Phillips curves remain highly relevant
  – Openness/globalisation seem far less lowflationary than labor
    supply of elderly workers
Auer, Levchenko and Sauré

\[ \text{PPI}_{(j,s,t)} = B \text{ PPI}_{(j,s,t)} + C_{(j,s,t)} \]

1. Estimate the part of PPI not mechanically due to the input-output spill-overs
   \[ C_{(j,s,t)} = (1-B) \text{ PPI}_{(j,s,t)} \]

2. What is “common” across countries in \( \text{PPI}_{(j,s,t)} \) and in \( C_{(j,s,t)} \)
   \[ \text{PPI}_{(j,t)} = \lambda_j F(t) + \varepsilon_{(j,t)} ; C_{(j,t)} = \mu_j G(t) + \zeta_{(j,t)} \]

3. Var (\( \lambda_j F(t) \))/Var(\( \text{PPI}_{(j,t)} \)) > Var (\( \mu_j G(t) \))/Var(\( C_{(j,t)} \))
   implies amplification of the input-output structure \( B \)

Result #1: inflation is “mechanically-structurally common-global”
Result #2: Once controlling for sectoral shocks the global factor account for a small share of the variance of inflation
1. $\pi(t) = \tau(t) + \pi^\sim(t)$, $\tau(t) =$ inflation trend

2. $[\tau(t) \pi^\sim(t) \ldots u(t) \ldots]$ modelled as a two blocks FAVAR that includes domestic and international variables

Result # 1: Foreign shocks have large effects only on $\pi^\sim(t)$

Result # 2: Oil dominates $\pi^\sim(t)$
Trending variables of interest
OECD cross-country means

[Graph showing trends in various economic indicators from 1989 to 2015]
Trending variables of interest
OECD cross-country means
Trending variables of interest
OECD cross-country means
Trending variables of interest
OECD cross-country means

- Core inflation
- Trade/GDP (RHS)
- Labor participation 55-64 (RHS)
- Germany Labor part. 55-64 (RHS)
# Wage Phillips curves

## Effects of openness and labor supply

### 25 OECD countries 1996-2016

<table>
<thead>
<tr>
<th></th>
<th>Coef</th>
<th>Student T.</th>
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<tbody>
<tr>
<td>Lagged core inflation</td>
<td>0.61</td>
<td>10.0</td>
<td>0.43</td>
<td>5.2</td>
<td>0.41</td>
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<tr>
<td>Lagged NRJ inflation</td>
<td>0.21</td>
<td>1.7</td>
<td>0.21</td>
<td>1.7</td>
<td>0.18</td>
<td>1.4</td>
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<tr>
<td>Productivity</td>
<td>0.41</td>
<td>7.3</td>
<td>0.39</td>
<td>6.5</td>
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<td>5.7</td>
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<td>Unemployment</td>
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<td>-12.1</td>
<td>-0.59</td>
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<td>Openness</td>
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<td>Labor participation &gt;55 years</td>
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<td></td>
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<td></td>
<td>-0.07</td>
<td>-2.4</td>
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</table>

| # countries | 25 | 25 | 25 |
| # observations | 461 | 416 | 416 |

### 8 EA countries (DE, FR, IT, ES, NL, BE, AT, FI) 1996-2016

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<td>Lagged HICP inflation</td>
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<td>3.3</td>
<td>0.36</td>
<td>2.8</td>
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<td>Lagged NRJ inflation</td>
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<td>1.8</td>
<td>0.26</td>
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<tr>
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<td>4.7</td>
<td>0.28</td>
<td>4.5</td>
<td>0.26</td>
<td>3.9</td>
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<td>Unemployment</td>
<td>-0.33</td>
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<td>-0.28</td>
<td>-8.1</td>
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<tr>
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<td>1.69</td>
<td>0.9</td>
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<td>Labor participation &gt;55 years</td>
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<td></td>
<td></td>
<td></td>
<td>-0.02</td>
<td>-1.9</td>
</tr>
</tbody>
</table>

| # countries | 8  | 8  | 8  |
| # observations | 155 | 147 | 147 |
Low wage inflation and labor supply

2012-2016 mean residual = -0,6%

2012-2016 mean residual = -0,4%
Policy implications

• Both papers concur that sectoral/oil prices are key to spur common inflation across countries
  – ALS: little trend in the period under review
  – KW: trend inflation is domestic
• Is globalisation pushing inflation down?
  – Perhaps through lower oil prices
  – Whose effects should be temporary
  – Good news: structural reforms have triggered a deflationary labor supply shock (older + part-timer see IMF WEO)
    • Persistent yet transitory effect
    • In the euro area, where participation above 50 has increased the most, this is a material increase in capacity and slack