OECD Project on measuring producer price indices and productivity growth in services

Anne-Sophie Fraisse and Anita Wölfl, OECD Statistics Directorate
29th Voorburg Group meeting
Central Statistics of Ireland, Dublin
Measuring producer price indices in services I – why do we care?

Average annual growth in value added per hour worked, in %

Source: 2014 OECD Productivity Database, September 2014
Measuring producer price indices in services II – what are the issues?

• **Tracking price changes**
  - Variety of pricing methods used ...
  - ... hampers the reliability and comparability of the index.

• **Identifying quality changes**

• **Treatment of bundled services**

• **Decomposition by type of end-users**
  - Business prices may display different trends to those of consumers;
  - Availability of reliable weight data (such as turnover).
Potential role of price measurement for measured productivity growth

- Effect on volume series of value added ...
- ... by using different potential deflators ...
  - SPPI
  - CPI
  - Wage rate index per employed person or per hour worked.
- ... for telecommunication services and legal accounting services for France and the U.S.
Overview of main results

Average annual growth rates in gross value added per person employed using different deflators of value added, in %

<table>
<thead>
<tr>
<th>Service activity</th>
<th>Deflator Period</th>
<th>Base</th>
<th>Wage rates - employment</th>
<th>CPI - All items</th>
<th>CPI - related service</th>
<th>SPPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telecommunication services</td>
<td>2000-2010*</td>
<td>6.37</td>
<td>0.55</td>
<td>2.71</td>
<td>6.32</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2005-2010*</td>
<td>4.73</td>
<td>-2.01</td>
<td>0.22</td>
<td>4.92</td>
<td>8.60</td>
</tr>
<tr>
<td>Legal and accounting services</td>
<td>2000-2010*</td>
<td>-0.24</td>
<td>1.17</td>
<td>1.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2005-2010*</td>
<td>-1.18</td>
<td>-3.26</td>
<td>-0.88</td>
<td>-1.58</td>
<td>-2.70</td>
</tr>
<tr>
<td>United States</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broadcasting &amp; telecommunication</td>
<td>2000-2011*</td>
<td>6.82</td>
<td>2.28</td>
<td>1.88</td>
<td>7.41</td>
<td>6.00</td>
</tr>
<tr>
<td></td>
<td>2005-2011*</td>
<td>5.64</td>
<td>0.40</td>
<td>0.85</td>
<td>5.67</td>
<td>3.12</td>
</tr>
<tr>
<td>Legal services</td>
<td>2000-2011*</td>
<td>-1.60</td>
<td>-0.28</td>
<td>0.53</td>
<td>-1.65</td>
<td>-2.68</td>
</tr>
<tr>
<td></td>
<td>2005-2011*</td>
<td>-3.00</td>
<td>-1.13</td>
<td>-0.36</td>
<td>-1.88</td>
<td>-4.12</td>
</tr>
</tbody>
</table>

Note: All results based on double deflation. *: closest period available; “Base”: value added deflator as given in National Accounts.
Source: OECD STAN database, INSEE, Bureau of Labour Statistics.
If output-based SPPI can be computed a proxy may lead to significant bias.

Volume series of Value added (VA), France, Index, 2010=1

Note: Base: VA deflator as in NA; SPPI: SPPI, national/Eurostat series; WRIE/WRIH: index of wage rates per employed person/ per hour worked.
The bias is smaller in the case of CPIs for closely related services.

Note: previous slide plus new: CPITG: CPI telecommunication goods, CPITS: CPI, telecommunication services.
..., but the composition of the product basket of the CPI is key.

Note: previous slides plus new: CPIA: CPI all items.
The biases appear much smaller in the case of legal services.

Volume series of Value added (VA), United States, Index, 2010=1

Note: Base: VA as in NA; SPPI: SPPI, national series; CPIA: CPI all items, CPILS: legal services; WRIE: index of wage rates per employed persons.
• **Bias depends on:**
  - Economic environment,
  - Service characteristics,
  - The way prices are set by service providers (pricing mechanisms).

• **A possible ranking of pricing methods**
  - First-best: output-based SPPIs,
  - Second-best: CPIs for closely related services,
  - Third-best: input/time-based index.
• **Improve service price index measurement**
  - Developing price of final service output, see “*Methodological guide for developing producer price indices for services*” (OECD/Eurostat, forthcoming)
  - Closer link between CPI and SPPI compilation
  - Closer link between price index measurement and other variables (e.g. value added, output, etc)
THANK YOU VERY MUCH FOR YOUR ATTENTION

Anne-Sophie.Fraisse@oecd.org
Anita.Woelfl@oecd.org