REDUCING OUTPUT GAP REVISIONS IN THE OECD POTENTIAL OUTPUT METHODOLOGY

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Substantial revisions to published G7 output gaps for 2007

<table>
<thead>
<tr>
<th>Country</th>
<th>Initial estimate</th>
<th>Most recent estimate</th>
<th>Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>0.4</td>
<td>2.6</td>
<td>2.2</td>
</tr>
<tr>
<td>Japan</td>
<td>0.5</td>
<td>2.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Germany</td>
<td>0.5</td>
<td>2.3</td>
<td>1.8</td>
</tr>
<tr>
<td>France</td>
<td>0.3</td>
<td>2.3</td>
<td>2.0</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.2</td>
<td>3.4</td>
<td>3.1</td>
</tr>
<tr>
<td>Italy</td>
<td>-1.2</td>
<td>3.0</td>
<td>4.2</td>
</tr>
<tr>
<td>Canada</td>
<td>0.2</td>
<td>1.2</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td></td>
<td></td>
<td><strong>2.3</strong></td>
</tr>
</tbody>
</table>
Difference between initial and final 2007 estimates (% pts)

- USA
- JPN
- DEU
- FRA
- GBR
- ITA
- CAN

Legend:
- Labour efficiency gap
- Unemployment gap
- Participation gap
- Total output gap
Definition of (logged) labour efficiency: $e = y - \alpha k - (1- \alpha) n$

Initial labour efficiency: $egap_1 = e - HP(e)$

Regression on cyclical variables: $egap_1 = \theta(L) egap_1(-1) + \beta(L) X$

Adjusted labour efficiency: $e^* = e - \gamma(L) X$

Final labour efficiency gap: $egap_2 = e^* - HP(e^*)$
Form of adjustment variable

- Applied to **36** OECD, **2** Accession & **8** non-OECD countries

- Adjustment variable differs across countries:

<table>
<thead>
<tr>
<th>Capacity Utilisation</th>
<th>Investment share</th>
<th>Current balance</th>
<th>Commodity prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>17</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

- **14** countries for which 2 variables used

- China is only country no adjustment variable found
FINLAND: trend labour efficiency

**HP filter only**

- Raw labour efficiency
- Trend up to 2008
- Trend up to 2017

**Cyclical adjustment + HP filter**

- Adjusted labour efficiency
- Trend up to 2008
- Trend up to 2017
FINLAND: trend labour efficiency gap

HP filter only

Cyclical adjustment + HP filter
OECD estimates of potential growth are much less cyclical than those of IMF or EC.

Note: The bars show the estimated coefficient $\hat{\beta}$ from the panel regression $\Delta p_{i,t} = \alpha + \beta \Delta g_{i,t}$, where $p_{i,t}$ is potential real GDP growth in country $i$ and year $t$ and $g_{i,t}$ is actual real GDP growth. Each regression uses 682 observations on the same 24 countries and available years spanning (at most) the period 1980 to 2017.
Current OECD estimates more negative in EA periphery

Output gaps in 2018

Source: forecasts published in May (EC, OECD) or April 2019 (IMF)
Merits of end-point adjustment process

- Does not rely on forecasts ("tail wagging the dog")
- Conceptually simple and intuitive
- Method similar across countries, but different adjustment variables for different countries
- Reduces revisions across many countries relative to HP filter
- But scope for further improvement
United States: Trend labour force participation

A. Labour force participation rate and unemployment gap

B. Labour force participation rate gap
References


• Yvan Guillemette and Thomas Chalaux (2018) “If potential output estimates are too cyclical, then OECD estimates have an edge”, OECD Economics Department Blogpost, oecdecoscope, October16.

Impulse response function for the commodity price gap in Argentina

Impact of 1-point commodity price gap after $n$ year on labour efficiency gap