Task-force on Quality of EU BCS data, Sub-group 5:

Weighting approaches

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Due to the absence of C. Renne, the main findings of her study are summarised and presented by Andreas Reuter (ECFIN A4.2)
Outline

1. Overview of the weighting schemes used in the EU BCS programme
2. The impact of different weighting regimes on volatility
3. The impact of different weighting regimes on tracking performance
1. Overview of the weighting schemes used in the EU BCS programme

The amount of national surveys not using weights is small:

- 1 (in case of industry / services survey)
- 2 (in case of construction / retail trade survey)

Most "popular" weights at firm-level:
- turnover / employment (around 50% of national surveys in all sectors)

Most "popular" weights at stratum-level:
- value added (15-30% of national surveys, depending on sector of survey)

Furthermore: most institutes use the same weighting variable for all questions
2. The impact of different weighting regimes on volatility

Calculating 3 different versions of the French industry confidence indicator:

- Indicator with weights on **firm- and stratum** level (*called*: INDU)
- Indicator with weights **only on stratum** level (*called*: INDU_1)
- Indicator with **no weights** at all (*called*: INDU_1_1)

**Observation:**
- series with less/no weights seem to smoothen the original indicator
Decomposition of the series into i) trend-cycle, ii) seasonal, iii) irregular component

The less weights are used, the lower the amplitude of the irregular component.

<table>
<thead>
<tr>
<th>Time-span</th>
<th>weights at firm- and stratum level MCD=2</th>
<th>weights only at stratum-level MCD=2</th>
<th>no weights MCD=1</th>
</tr>
</thead>
<tbody>
<tr>
<td>(months)</td>
<td>C</td>
<td>I</td>
<td>I/C</td>
</tr>
<tr>
<td>1</td>
<td>1.22</td>
<td>1.87</td>
<td>1.54</td>
</tr>
<tr>
<td>2</td>
<td>2.37</td>
<td>2.09</td>
<td>0.88</td>
</tr>
<tr>
<td>3</td>
<td>3.50</td>
<td>0.96</td>
<td>0.56</td>
</tr>
</tbody>
</table>

- indicator without weights is the only one to have MCD=1
- mean absolute differences for 2-months periods show: discarding weights drives down relative importance of irregular component
3. The impact of different weighting regimes on tracking performance

Calculating 3 different versions of the French balance-series for industry question 5:

- indicator with weights on **firm- and stratum** level (*called:* Q5)
- indicator with weights **only on stratum** level (*called:* Q5_1)
- indicator with **no weights** at all (*called:* Q5_1_1)
2. The impact of different weighting regimes on tracking performance - continued

Q5: Production expectations for the months ahead (advanced for 3 months)

-5
-4
-3
-2
-1
0
1
2
janv-05 janv-06 janv-07 janv-08 janv-09 janv-10 janv-11 janv-12

Standardized data
Q5 Q5_1 Q5_1_1 Ref_serie

Less weighted / non-weighted series drop further than weighted series
>> more in line with ref. series

Less weighted / non-weighted series start recovery later than weighted series
>> less in line with ref. series

Possible reason: large firms anticipated end of crisis earlier

Less weighted / non-weighted series continue rising when ref. series goes horizontal
>> less in line with ref. series
Conclusions

- weighting seems to have the tendency to drive up volatility (confirmed by MCD analysis)

**But:**
- weighting seems to improve the tracking performance of a given reference series

Weighting seems to be a trade-off (volatility vs. tracking performance)