European Commission
Directorate General Economic and Financial Affairs

Harmonisation of BCS:
Aggregation methods (business surveys) and
Quality checking (consumer survey)

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Business and consumer surveys and short-term forecast (ECFIN A4.2)

Joint EU/OECD workshop on recent developments in business and consumers surveys
Brussels, 14-15 November 2013
Outline

Business surveys
• Introduction/Background – Aggregation methods
• Results for "factors limiting production"
• Results for "structure" of Investment
• Conclusions

Consumer survey
• Introduction/Background – Quality checking
• Results from quality checking
• Conclusions
Introduction

- Survey among partner institutes carried out in 2010 highlighted possible harmonisation problems in aggregation methods used for (1) the quarterly questions on factors limiting production in the industry, services and construction surveys and (2) the question on the structure of investment in the Oct/Nov Investment survey
Introduction (2)

• In 2011 a Task Force was created with the aim to make recommendations on the best aggregation method of the replies at country level in order (1) to calculate meaningful EU and euro area results that will be easy to interpret and (2) to allow comparison between countries.
Introduction (3)

The conclusions were:

- For quarterly questions on factors limiting production/business/building activity: the institutes should send the results without adjusting: i.e. the factors can add up to more than 100%.

- For the investment survey in the manufacturing sector: when managers can tick more than one category, each "tick" is divided by the number of "ticks" that firm gave (NB Institutes asking directly for the percentages are in line with that method)
Institutes were asked to send the results aggregated with the agreed methods from April 2013 for the quarterly questions and from Oct/Nov 2013 for the "structure" of investment.

Institutes were also asked to recalculate the series as far back as possible.
Results
Quarterly questions:
new files for 13 countries

Investment survey:
new files for 6 countries
Quarterly question on factors limiting production

What main factors are currently limiting your production (business in the service survey, building activity in the construction survey):

- None
- Insufficient demand
- Shortage of labour force
- Shortage of material (space) and/or equipment
- Financial constraints
- Weather conditions
- Other factors
How series have changed…

**EU - Industry survey**

- **New - "None"**
- **old_rebased**

![Graph showing changes in series from 1990 to 2012](image)

**EU - Industry survey**

- **New - Financial constraints**
- **old - rebased**

![Graph showing changes in series from 2003 to 2013](image)
Country 1 - Industry survey

- New - Insufficient demand
- Old

Country 2 - Industry survey

- New - Financial constraints
- Old
Question on the structure of investment in the Oct/Nov Investment survey

Investment carried out this year and planned investment for next year is, or will be, of the following kind (choose appropriate category or categories):

- Replacement of worn-out plant or equipment
- Extension of production capacity
- Investment designed to streamline production
- Other investment objectives (pollution control, safety, etc.)
Country 1 - Survey 2012 - Structure of Investment

This year - New data
- Replacement: 36
- Extention: 13
- Streamline production: 25
- Others: 19

Next year - New data
- Replacement: 24
- Extention: 13
- Streamline production: 47
- Others: 9

This year - Old data
- Replacement: 33
- Extention: 19
- Streamline production: 27
- Others: 21

Next year - Old data
- Replacement: 27
- Extention: 13
- Streamline production: 46
- Others: 14
Country 2 - Survey 2012 - Structure of Investment

Survey 2012 - This year - new

- Replacement: 42
- Extention: 15
- Streamline production: 25
- Others: 17

Survey 2012 - Next year - new

- Replacement: 41
- Extention: 14
- Streamline production: 26
- Others: 19

Survey 2012 - This year - old

- Replacement: 37
- Extention: 20
- Streamline production: 26
- Others: 17

Survey 2012 - Next year - old

- Replacement: 36
- Extention: 21
- Streamline production: 26
- Others: 17
Country 3 - Structure of Investment

**Replacement**

- New
- Old

**Extension**

- New
- Old

**Streamline production**

- New
- Old

**Others**

- New
- Old
Conclusions
• The aggregation methods for both factors limiting production and structure of investment are now harmonised

• Improvement in the quality of the data:
  • Consistent EU and euro-area aggregates
  • Comparability across countries

Also thanks to corrections to some incorrect swaps between "other factors" and "financial constraints"
### Industry survey

#### Q8

<table>
<thead>
<tr>
<th></th>
<th>F1: None</th>
<th>F2: Insufficient demand</th>
<th>F3: Shortage of labour force</th>
<th>F4: Shortage of material/equipment</th>
<th>F6: Financial constraints</th>
<th>F5: Other factors</th>
</tr>
</thead>
</table>

### Construction survey

#### Q2

<table>
<thead>
<tr>
<th></th>
<th>F1: None</th>
<th>F2: Insufficient demand</th>
<th>F3: Weather conditions</th>
<th>F4: Shortage of labour force</th>
<th>F5: Shortage of material/equipment</th>
<th>F7: Financial constraints</th>
<th>F6: Other factors</th>
</tr>
</thead>
</table>
Consumer survey
Quality checking
Introduction

"Financial distress" indicator based on question No. 12 (current financial situation of households) of the consumer survey

some counterintuitive and in some cases obviously wrongly encoded data at the level of income groupings

DG ECFIN decided to embark on a more general checking of its consumer database
Introduction (2)

• In March 2013:

➢ DG ECFIN sent to each institute the respective national data asking to check if these data corresponded to what institutes had in their own data records

➢ With some examples of which kind of errors institutes should look for
Introduction (3)

The most common problems incurred were:

• Data were missing in some specific periods/months
• Results were switched between categories of income in some specific months
• Results were switched between categories of replies in some specific months
• Data quality problems (for example, too volatile results in some specific questions)
• Breaks in the series
Example of break in the series
Example of possible swaps between categories of replies for R4 in Feb 2006 and between end-2007 and beginning-2008
Results

• Several institutes (11) sent us back files with corrected data.
• Some institute could explain some possible breaks in the series, due for example to:
  ➢ changes in the questionnaire (for harmonisation purposes), for example FR
  ➢ sampling design changes, for example PT
• In some other cases, the institute had not been conducting the survey in the contested periods (changes in partner institutes) and therefore it was not possible to verify or correct the data
Example of correction – Question 12
Conclusions
• Useful exercise even if there are still some suspicious data in our database

Further actions:
• We will continue to do regular checks of the data
• Institutes are invited to continuously check the consistency of the data sent to DG ECFIN (in time and across breakdowns)
• Obvious errors in 'historical' data in DG ECFIN's database will be corrected by us
• Institutes that have not yet replied to our request are invited to verify their data and come back to us in good time
• On the business surveys: carefully check that there is no confusion between "other factors" and "financial constrains"!
Thank you!