



37th Voorburg Group meeting
**Discussant Remarks on
ISIC 85 - Education**

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Agenda

1. Highlights about the industry
2. Output measurement
3. Challenges for measurement
4. Questions for discussion

1. Highlights

Industry characteristics

- Wide diversity of institutional units: schools, universities, further education colleges, vocational institutes, private driving schools, etc.
- Different institutional sectors: various levels of government, non-profit institutions and non-financial corporations.
- Market or a non-market output (non-market = without economically significant prices).
-> *Output indicators presented by Mexico and Sweden cover market output*
- Oriented mainly to final consumption, but exports may be relevant.
-> *Price indexes presented by US BLS cover exports (postsecondary education)*

Service characteristics

- Education is an 'individual' service, delivered to pupils by educational establishments.
- Teaching is generally undertaken in groups.

1. Highlights

Output definition

- Education output is the **amount of teaching received by the students** for each type of education.
- Distinction between output and outcome.

Quantity of service

- The quantity of teaching received by students can be measured by the **number of hours** they spent at being taught. This measure is referred to as the number of 'student-hours' (or 'pupil-hours').
- Where this measure is not available, the simple **number of students** or pupils can be an alternative (if the hours of tuition that an average student receives remain broadly stable over time).

2. Output measurement: Market output

Current prices

- Income from services.

Volume measurement (*)

- A-Method: **deflating** output by suitable **PPIs** for each type of education service. The price indices should take account of the **quality** of the service provided and ensure that basic prices are used.
- B-Method: using appropriate CPIs, corrected to valuation in basic prices and reflecting the quality of the service provided.
- If these methods are not available, output indicators based on '**pupil hours**' or **numbers of pupils** are acceptable. Appropriate weights are important.

(*) Based on Eurostat, "Handbook on prices and volume measures in national accounts", 2016.

2. Output measurement: Non-market output

Current prices

- Sum of the total costs of production (intermediate consumption; compensation of employees; consumption of fixed capital; and other taxes less subsidies on production).

Volume measurement (*)

- Since prices are not available, the possible alternatives are: direct output indicators; direct input indicators; input price deflation.
- A/B-Method: direct output indicator using '**pupil hours**'. Use of **numbers of pupils** is appropriate for tertiary education and distance-learning. Criteria should be satisfied:
 - ✓ Complete **coverage**.
 - ✓ Weights based on unit cost with appropriate **stratification**: At least level 4 at CPA 2.1 up to Higher education; additional stratification by type of program/field of education for Tertiary education.
- C-Method: input method; or direct output method with incomplete coverage or insufficient stratification.

(*) Based on Eurostat, "Handbook on prices and volume measures in national accounts", 2016.

Challenges for measurement

1. Method selection depending on the availability of information and countries specificities.
2. Accounting for quality (either by direct or indirect methods):
 - Distinction of services, modes and areas (tertiary+) is key.
 - When accounting for quality of teaching, any external effect should be controlled.
3. New challenges from the Covid-19 pandemic: suspension of classes and switching to a remote learning environment.
 - Evaluation of methods and their suitability to reflect a decrease in the service.
 - Discussion on quality differences between classes online and in person.
 - In national accounts, some countries decided to implement changes in their methodologies or to introduce adjustments.

Questions for discussion

1. Any experiences measuring non-market output of Education on Service Statistics (other than national accounts)?
2. Any experiences compiling Education SPPIs? Any other experience compiling Education XPI?
3. Are there quality differences between education online and in person that should be considered?
4. How well output indicators reflected changes in the volume of service during the pick of the COVID-19 pandemic?
5. Any other question or comments?



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