

GDP: estimating agriculture

Office for National Statistics (ONS)

What short-term indicators most accurately predict agriculture's evolution in GDP?

Why is it important?

1. Agriculture in National Accounts

Agriculture only accounts for **0.7% of UK's GDP** (2012)

However...

- ONS data on agriculture is provided by the Department for Rural Affairs (Defra)
- No reliable short-term output indicator (STOI)
- Estimation based on previous aggregate series

2. Alternative indicators

- Value Added Tax (VAT)
- Export revenues
- Commodity gross outputs
- Retail sales

GDP estimates for agriculture are often revised,
Agricultural activities could be estimated better!

Evaluated using the following criteria:

- Extensiveness
- Long time-series
- Reliability
- Quick availability

Testing indicators: first results

3. VAT, an excellent indicator, not without its flaws

Expectations

All businesses have to fill in a VAT form
Trusted source: HMRC*
VAT reported on a monthly basis: good for short-term indicator

Limitations

Small structures: lots of turnover
Time lapse between production & sales
90% of VAT reported on an annual basis

VAT abandoned, 3 other options are considered

4. Retail Sales

Considered a good alternative. Statistics released every month, few data lost in this process as most UK households buy their groceries in a supermarket.

However, UK retail sales do not provide separated figures for foreign and domestic production: not a clear indicator.

5. Commodity gross outputs

Crops and livestock data taken as indicators for agriculture. Graph created based on specific commodity time-series: barley and cattle gross outputs fitted the GDP agricultural curve. They can be considered to improve short-term estimates of GDP.

6. Export revenues

Trade data converted to fit ONS standards of classification. Graph created based on export revenues: close fit with the GDP agricultural curve. It can be considered as a short-term indicator.

*HMRC: Her Majesty's Revenues and Customs

Professional skills and personal development

7. Enhancing statistical skills

Microsoft Excel

Identifying and cleaning outliers, creating categories and time-series, comparing datasets using charts.

Selecting variables

Creation of tables and graphs to evaluate what variable fits the model better.

Finding indicators

Checking for compatible datasets before merging, to convert to a similar standard.

8. Developing transferable skills

Teamwork and communication

Team coordination is essential to working efficiently, creating qualitative reports and adapting quickly to the work environment.

Problem-solving

Finding solutions to problems encountered during statistical research and discuss alternative solutions with the line manager.

Time management

Creating mind maps to improve productivity and multitasking, without losing track of the research process.

9. Areas for improvement

SAS and Python R

Learn new statistical and computing skills to meet new professional needs.

Publication standard

Learn how to write a statistical report that meets publication standards.

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