

Benchmarking monthly indicator series with structural quarterly series

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Statistics
Netherlands

Background

- Statistics Netherlands uses, like most northwestern European countries, Value Added Tax for turnover estimates
- **Annual** statistics : VAT **complete**
- **Quarterly** statistics : VAT **almost complete** (> 95 % covered)
- When complete; VAT-data for all commercial enterprises
- High-quality **turnover level** and **turnover growth rate** estimates can be produced with VAT for annual and quarter
(*results European ESSnet AdminData project*)

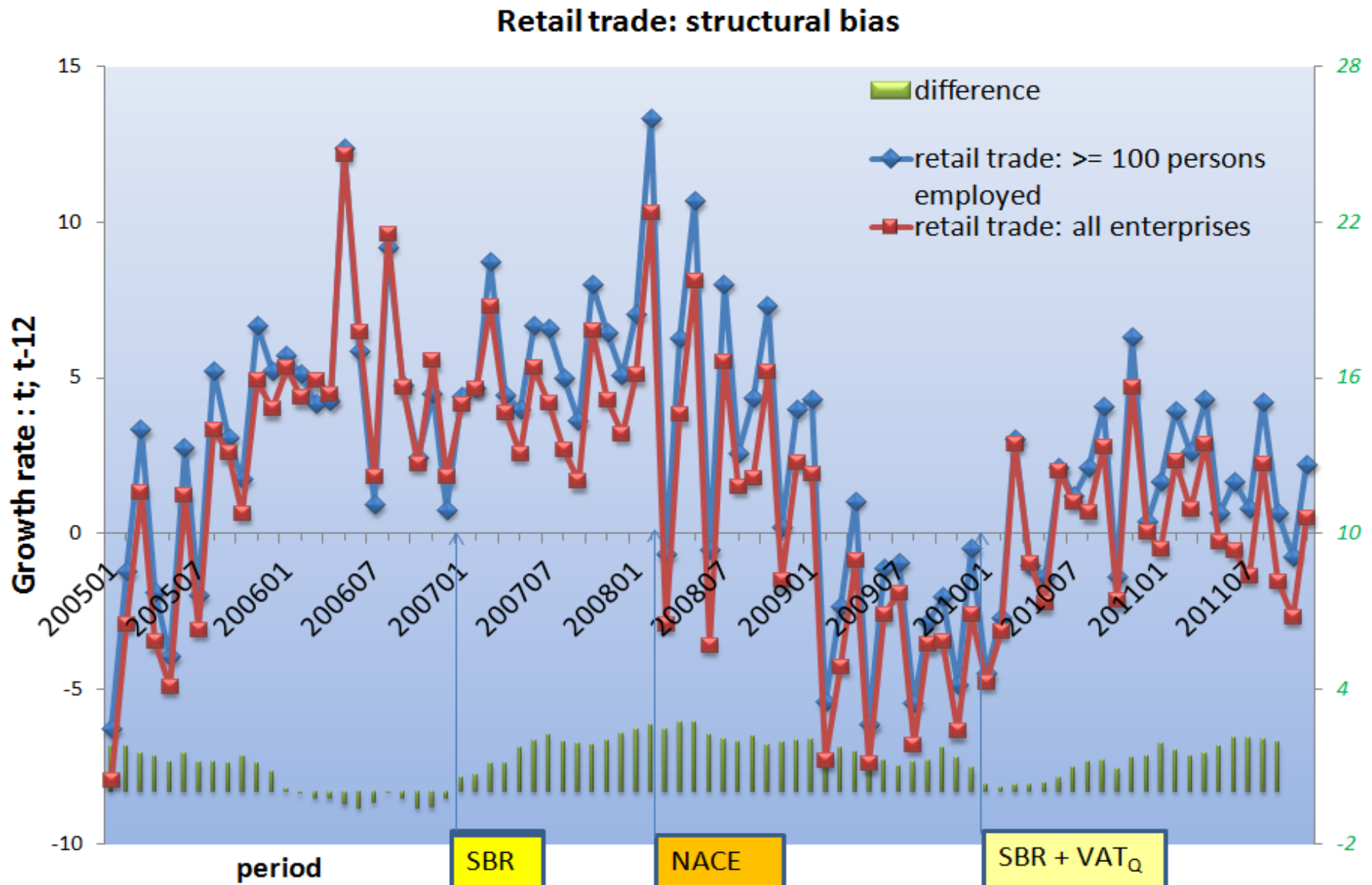
Introduction: challenge month

- Setup for VAT-based annual / quarterly turnover estimate is
 - a large enterprise survey (LE-survey)
 - VAT for medium and small enterprises
- **CHALLENGE = MONTH,**
 - no (or only selective) VAT available
- **RESEARCH QUESTION**
 - alternative for ‘standard’ survey for month knowing that VAT becomes available later ?

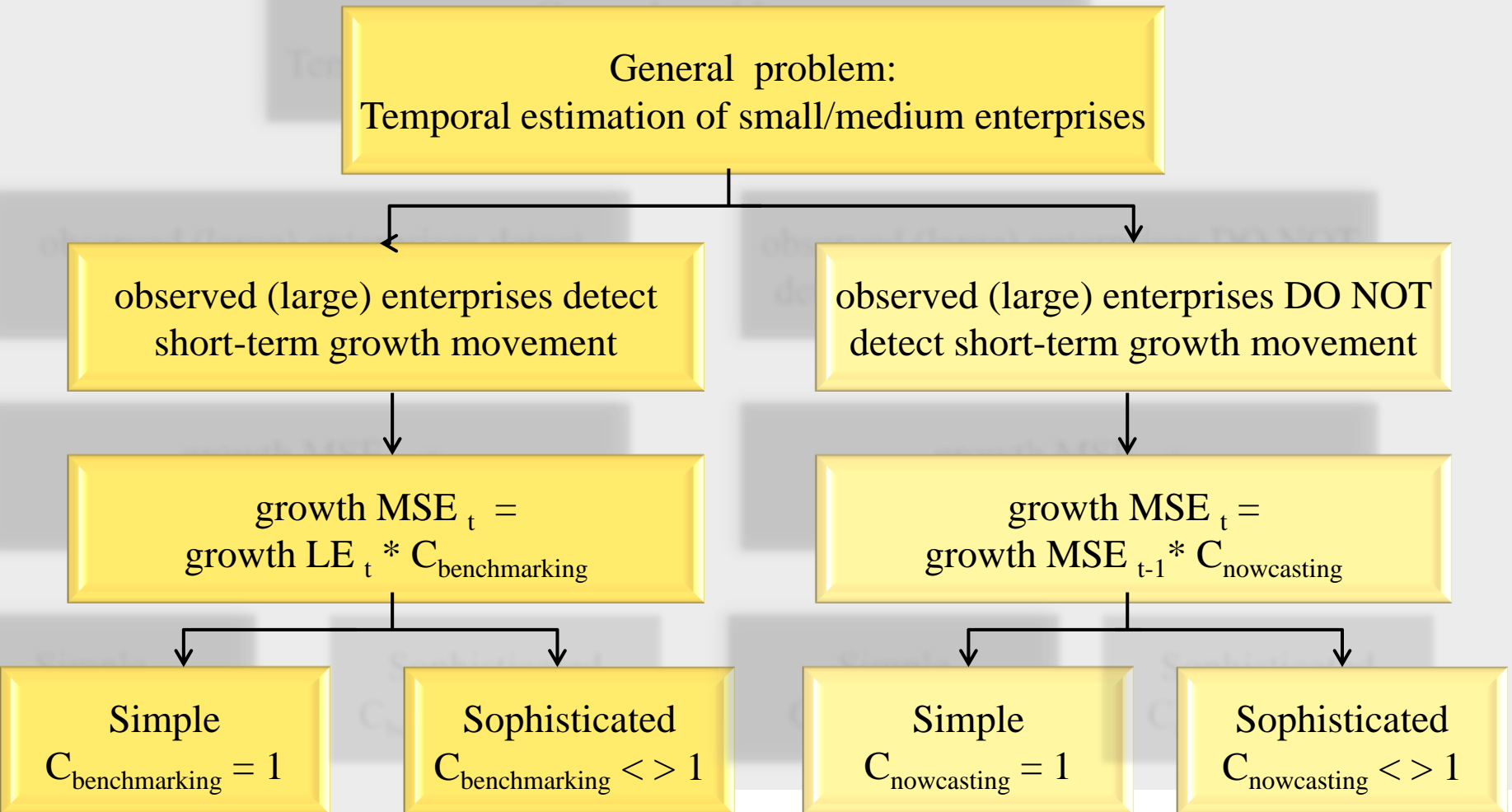
Month: indicator

Quarterly/Annual	Monthly
<ul style="list-style-type: none"> - 100 % sample L.E. - VAT quasi-complete 	<ul style="list-style-type: none"> - 100 % sample L.E. - VAT (not or limited) - -
(almost all) admin data & longer production time	few data & short production time
Reliable information on the overall level and long-term movement	Explicit information about the short-term movement
The “ <i>structural</i> ” series	The “ <i>indicator</i> ” series

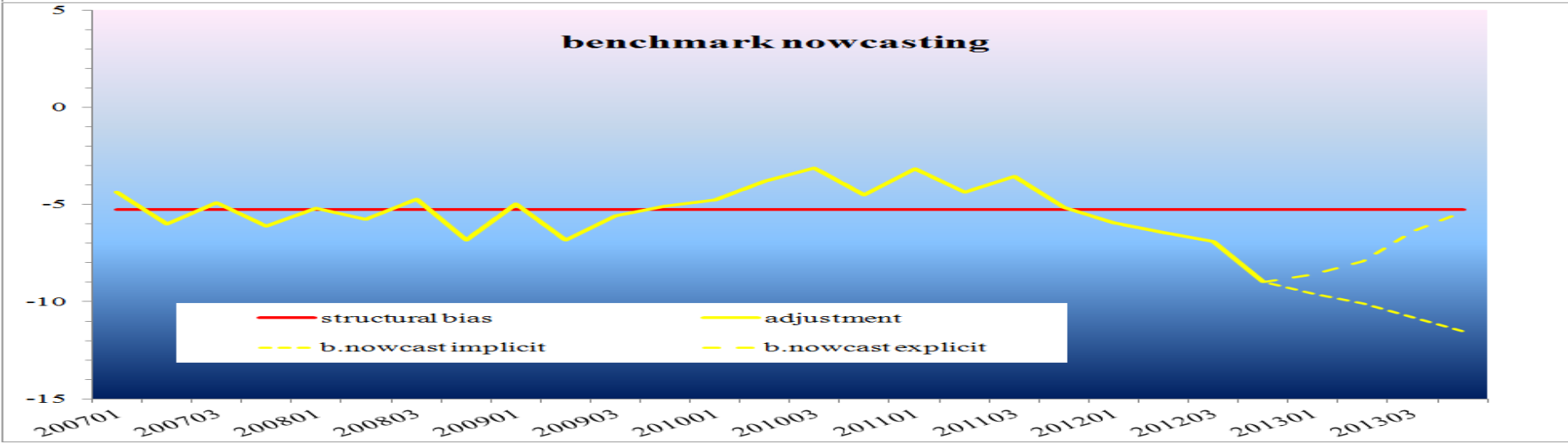
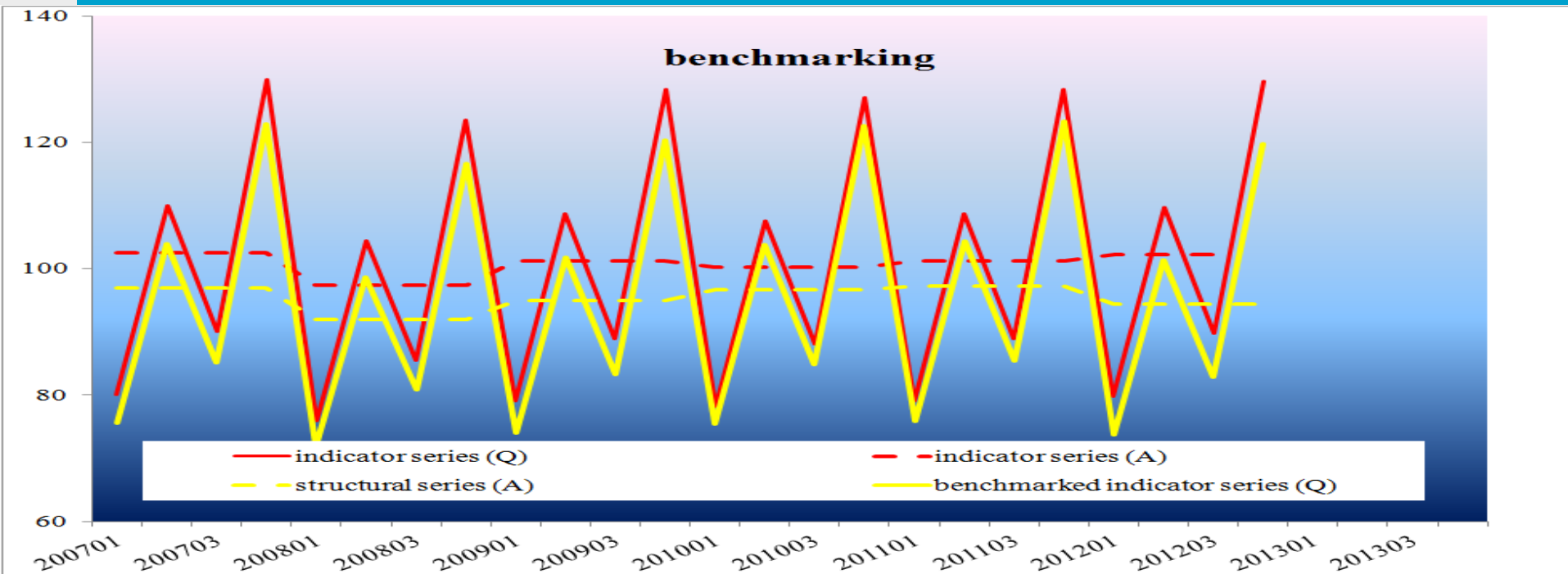
Relationships between series



Month: the strategy



Benchmark nowcasting



Test 1: Retail trade (the Netherlands)

DATA

- Month - Indicator series :

LE-survey (survey > 100 p.e. ; 100 % sample; share ~ 40 %)

- Quarter -Structural series :

LE-survey + VAT

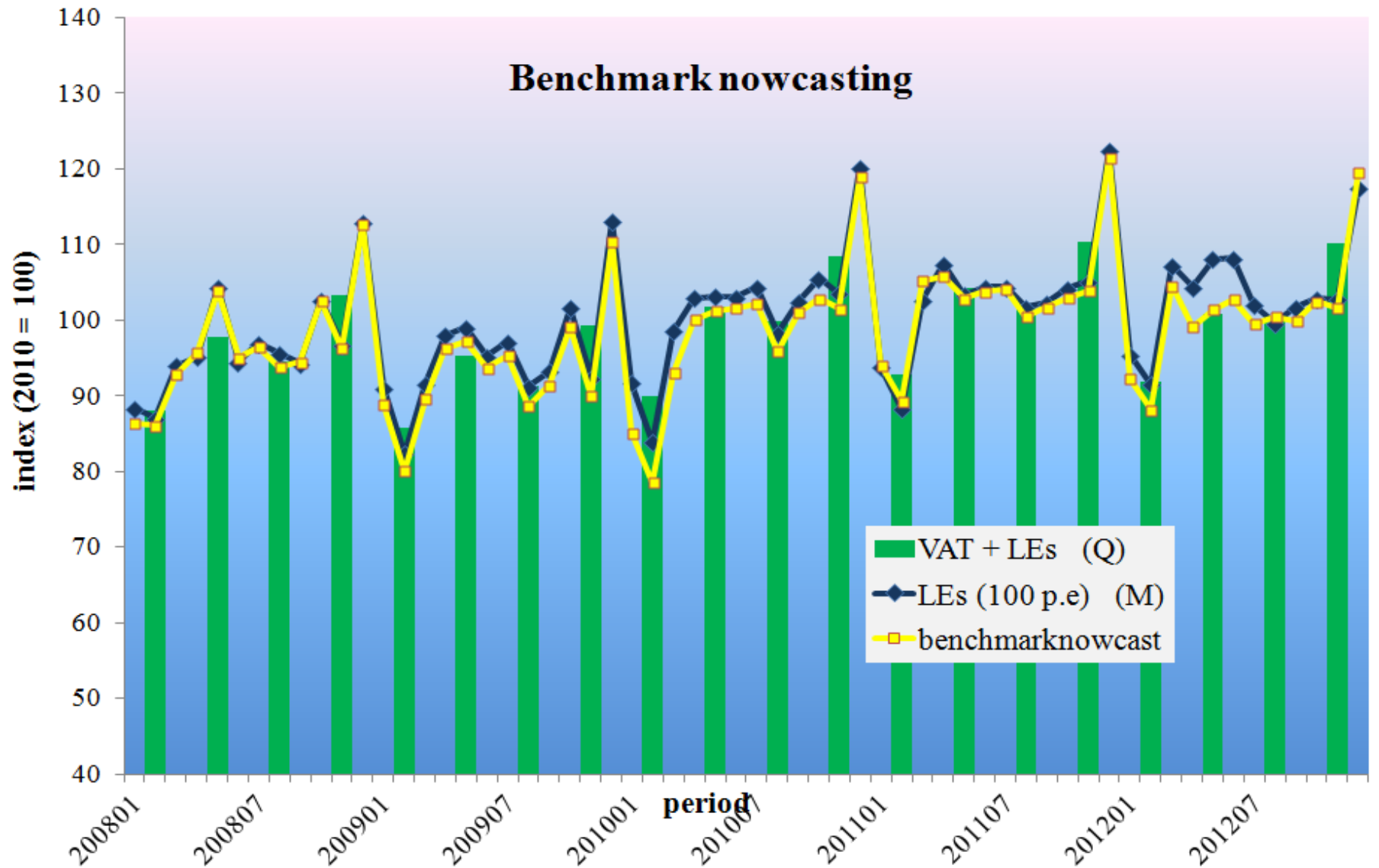
TECHNICAL INFORMATION

- Proportional Denton-method

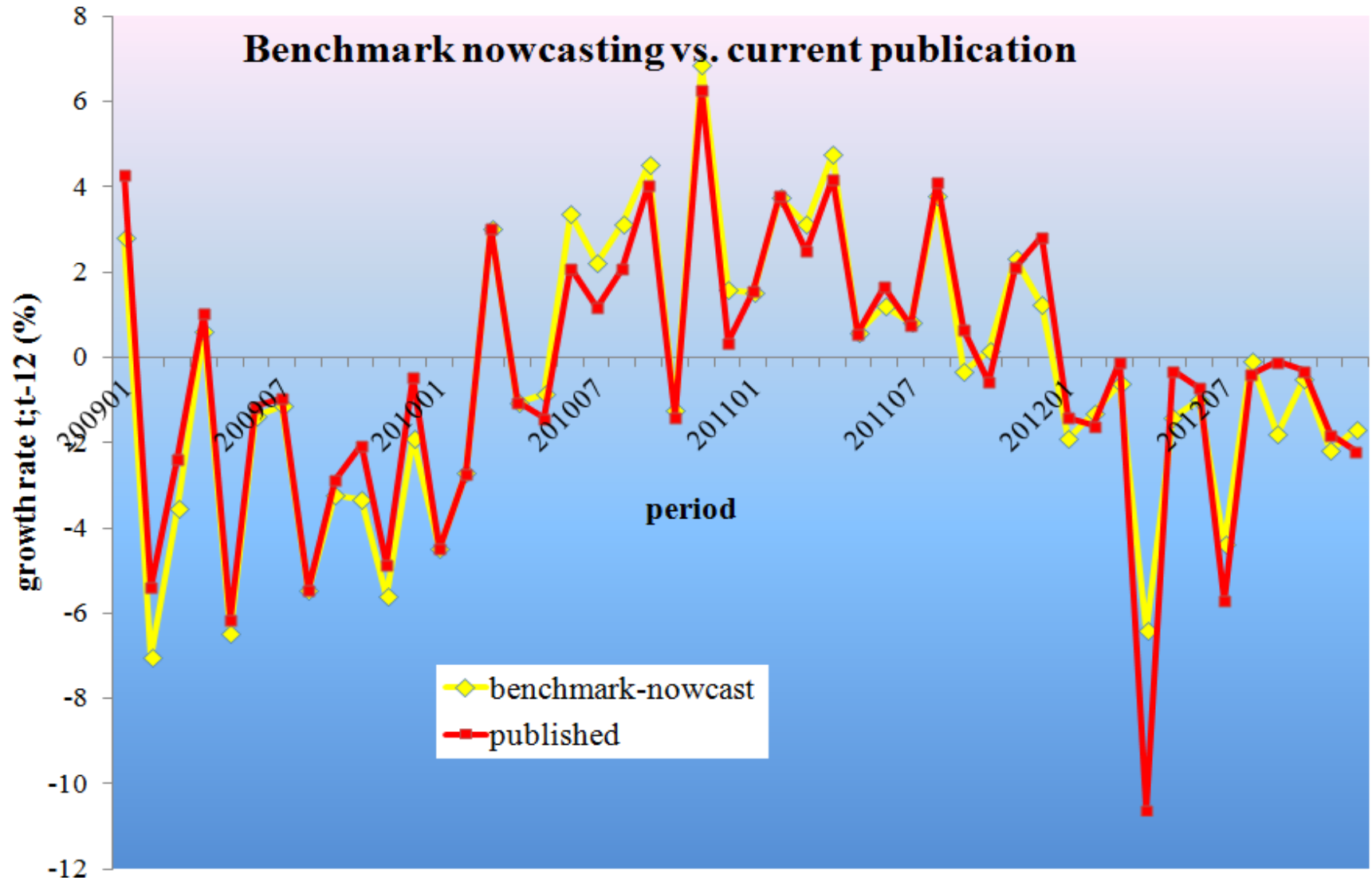
- Explicit benchmark nowcast:

- Q_{t+2} : average bias over last 9 months

Results retail trade (the Netherlands)



benchmark nowcast versus publication



Findings (indicator = LE-survey)

- Tested several ‘benchmark’ formulas
 - No ‘overall’ winner
- Benchmark nowcasting provides satisfying results if...
 - **panel-based series** are used as indicator
(no merges, split-offs, starters, stopper in indicator)

Test 2: Services (the Netherlands)

DATA

- Month - Indicator series:

expectation survey

$(N_{\text{increasing turnover}} - N_{\text{decreasing turnover}})$

- Structural series - Quarter:

LE-survey + VAT

(Y_{turnover})

TECHNICAL INFORMATION

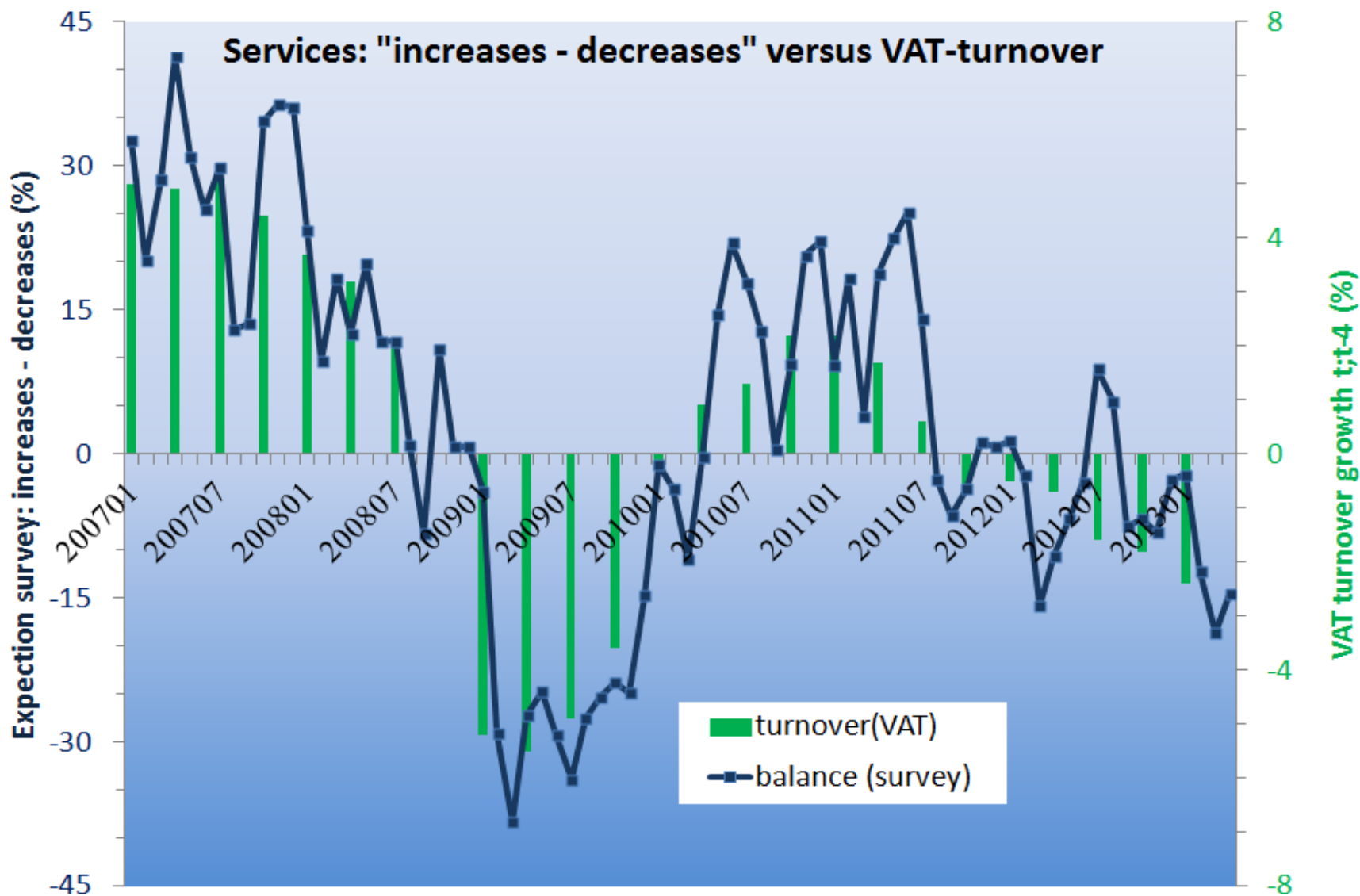
– Proportional Denton-method

– Explicit benchmark forecast:

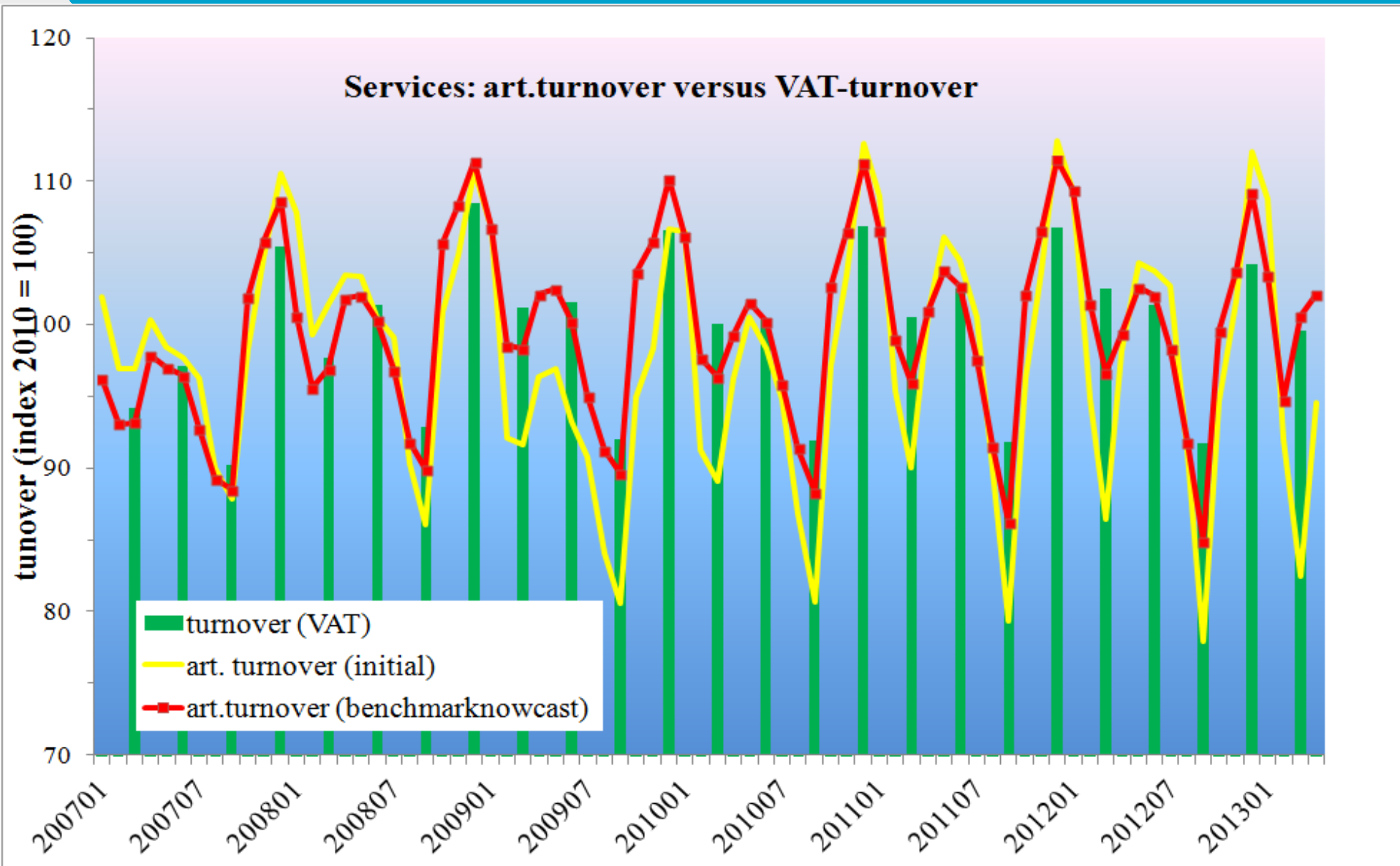
- Q_{t+2} : average bias over last 9 months



Results services (the Netherlands)



Results services (the Netherlands)



Conclusions

- Benchmarknowcasting may be used if
indicator measures short-term movement growth
(use later available VAT to check assumption)
- Benchmarknowcasts provide good results, if
indicator is LE-survey
(quicker estimates at lower costs)
- Panel-based series recommended

ONGOING RESEARCH

- Selecting indicator series *(precise sampling, other datasources)*
- Risk analyses

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