

Health in Denmark

Measurement of output and productivity

Kamilla Heurlén

CEIS, OECD, ISTAT, MEF
International Workshop in Rome, April 23-24 2009

Outline

- Background
- Health sector in Denmark
- Data from National Accounts
- DK experience with output volume measurement in general
- DK results regarding health
- Productivity measurement
- Quality issue
- Onwards

Background

- Presentation
- Statistics Denmark

- Political interest
- Welfare State

- Derogation until 2012
- Pilot studies in Statistics Denmark

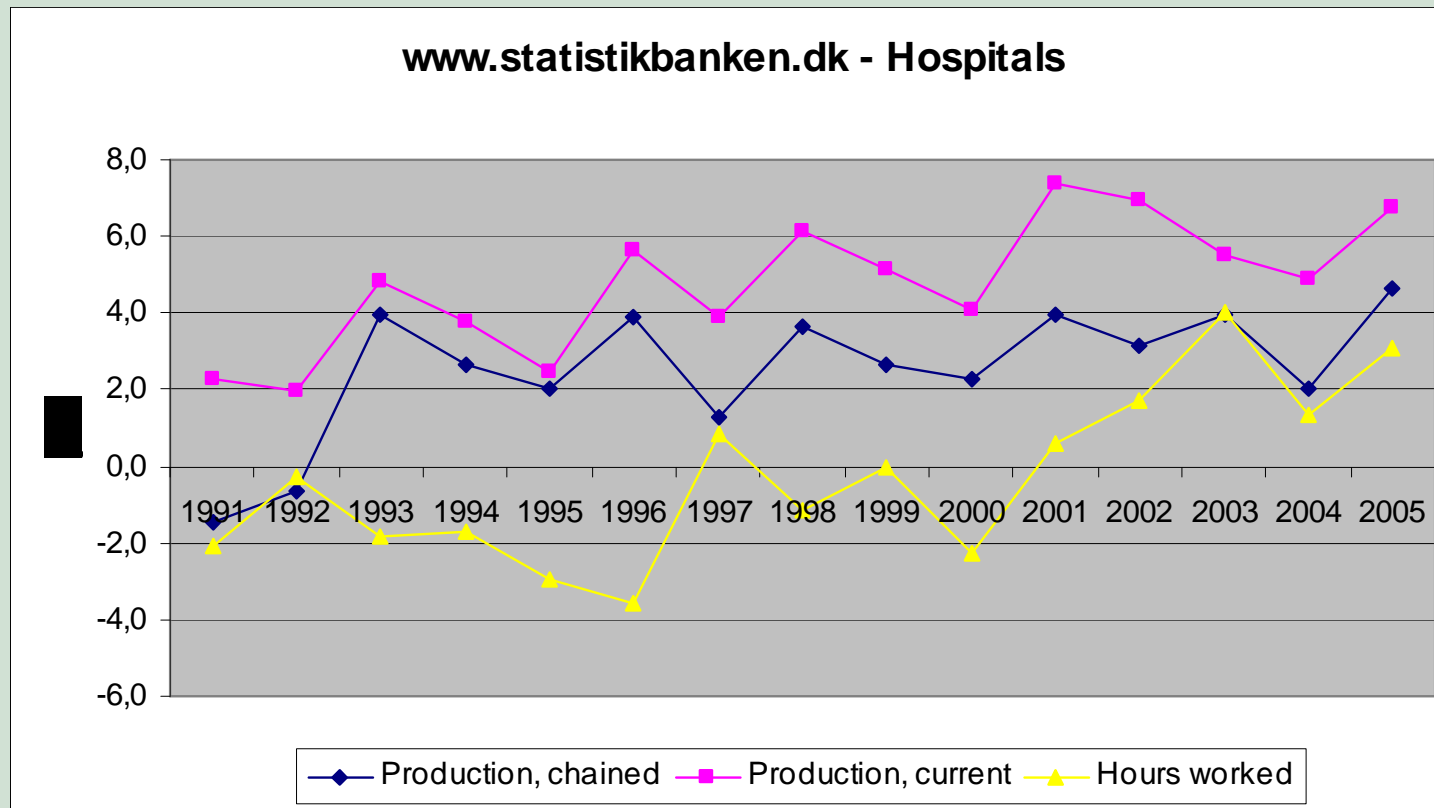
Health sector in Denmark - characteristics

- Organised in regions
- Health-tax
- Almost only non-market hospitals though increase in private health sector
- Doctors treated as market production
- Increase in health insurance

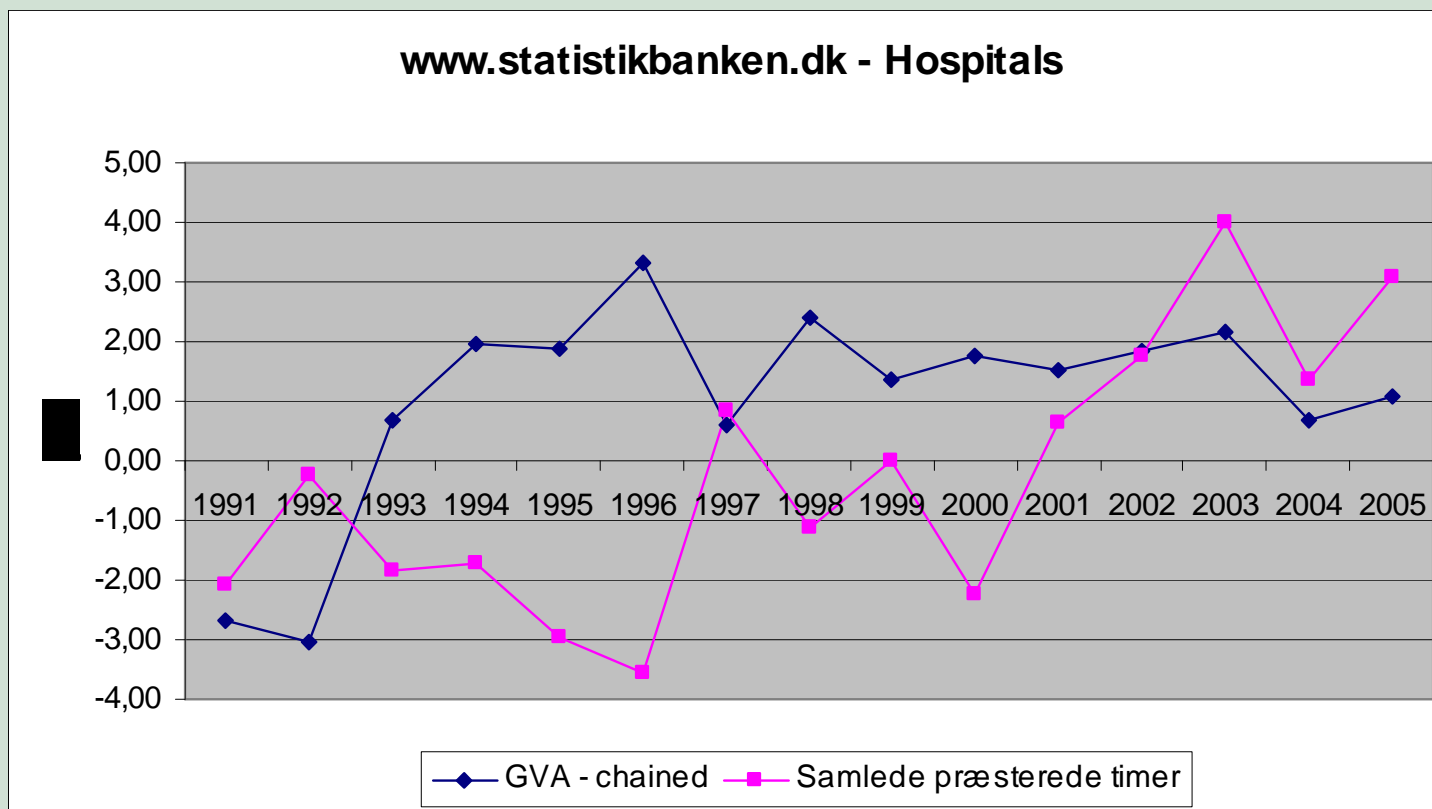
Health in National Accounts

- Data from National Accounts
- Input method
 - Intermediate consumption 30 pct.
 - Compensation of employees 63 pct.
 - Consumption of fixed capital 7 pct.
 - Other taxes less subsidies on production

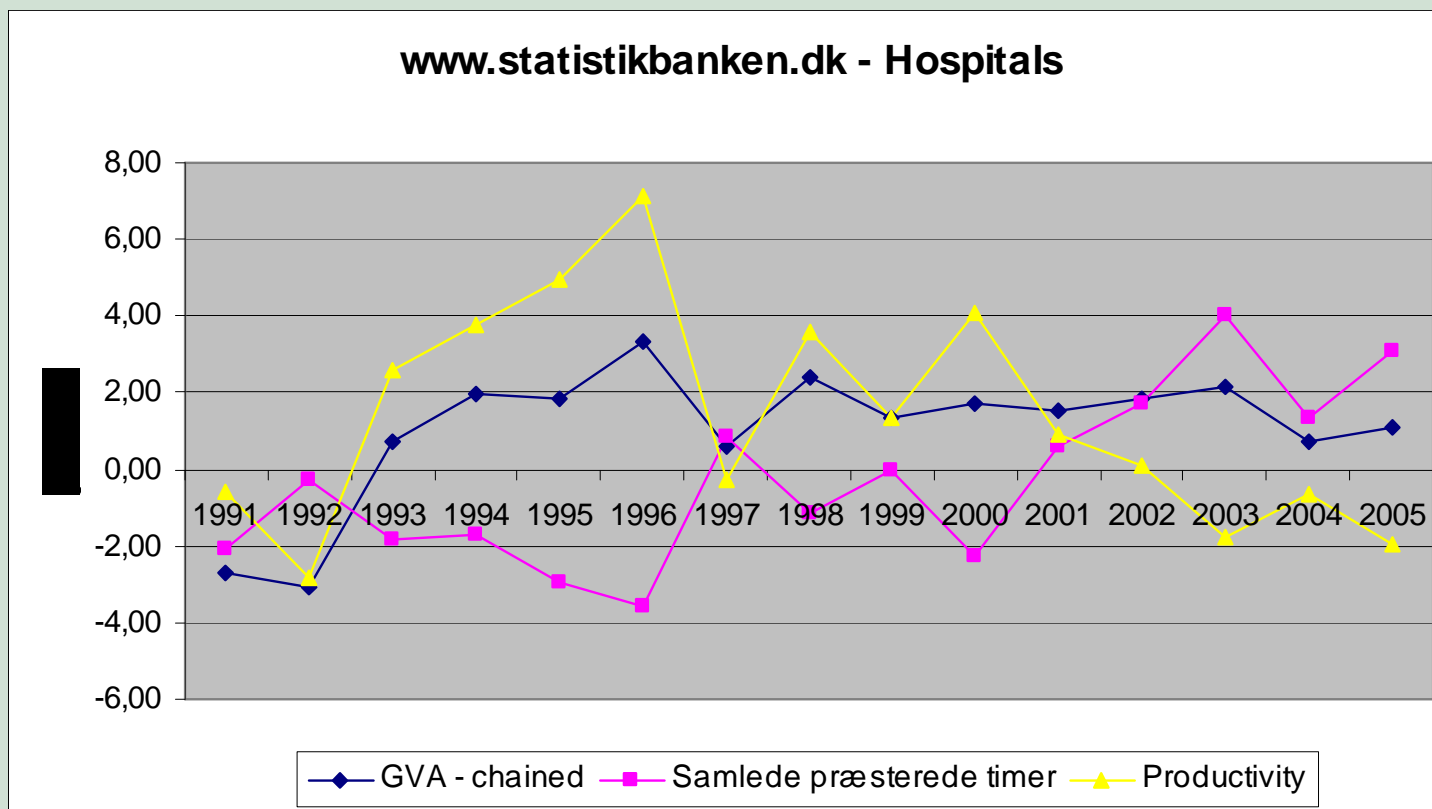
Example Hospitals – Input method



Example Hospitals – Input method



Example Hospitals – Input method



Output method - Pilot studies

- DK experience with output volume measurement in general
- Ministry of Finance, contracts feb.2006, dec. 2007, april 2009?
- health, education, social security
- quality
- set into production

Identification of Health in current prices

2002	Non-market output of health services	DKK million	Percent
711	Pharmaceutical products	12	0
713	Therapeutic appliances and equipment	0	0
721	Somatic medical services	123	0
722	Specialised medical services	13	0
723	Dental services	1 800	2
724	Paramedical services	1 904	2
731	Somatic hospital services	46 757	59
732	Specialised hospital services	5 425	7
733	Somatic medical services	293	0
734	Nursing & convalescent home services	19 245	24
740	Public health services	1 034	1
750	R& D health	1 672	2
760	Health n.e.c.	1 220	2
70	Total health	79 499	100

Compilation of deflators

- Volume indicators, number
- Costs previous year, DKK

- Deflator, cost index
 - » somatic hospitals
 - » psychiatric hospitals
 - » dental treatment
 - » elderly

Data to compilation of deflators

- DRG-system
 - Somatic hospitals, numbers and fees
 - partly psychiatric hospitals, proxy fees
- Dental treatment
 - Social Ressource Statistics, Costs from 0723 COFOG
- Elderly (residential and day care places)
 - Social ressource statistics, Costs from CPH

Overview – health deflators

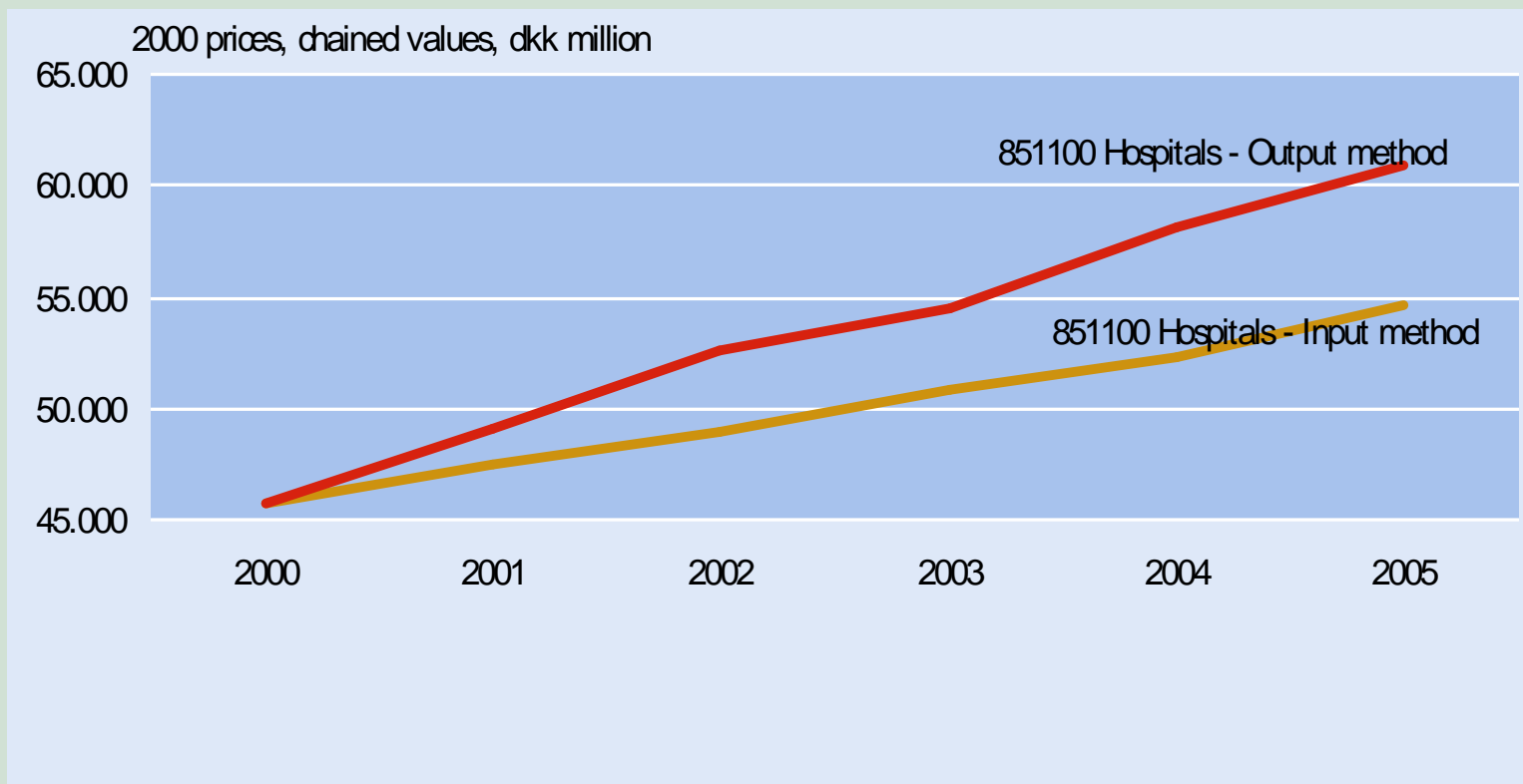
	2001	2002	2003	2004	2005
Somatic hospitals	99.8	99.6	101.3	98.5	101.7
Psychiatric hospitals	101.9	101.3	104.6	107.0	102.2
Dental treatment	99.7	105.5	100.4	100.9	102.5
Res. and day care places elderly	102.3	102.7	100.5	102.0	104.1

Overview - Health output

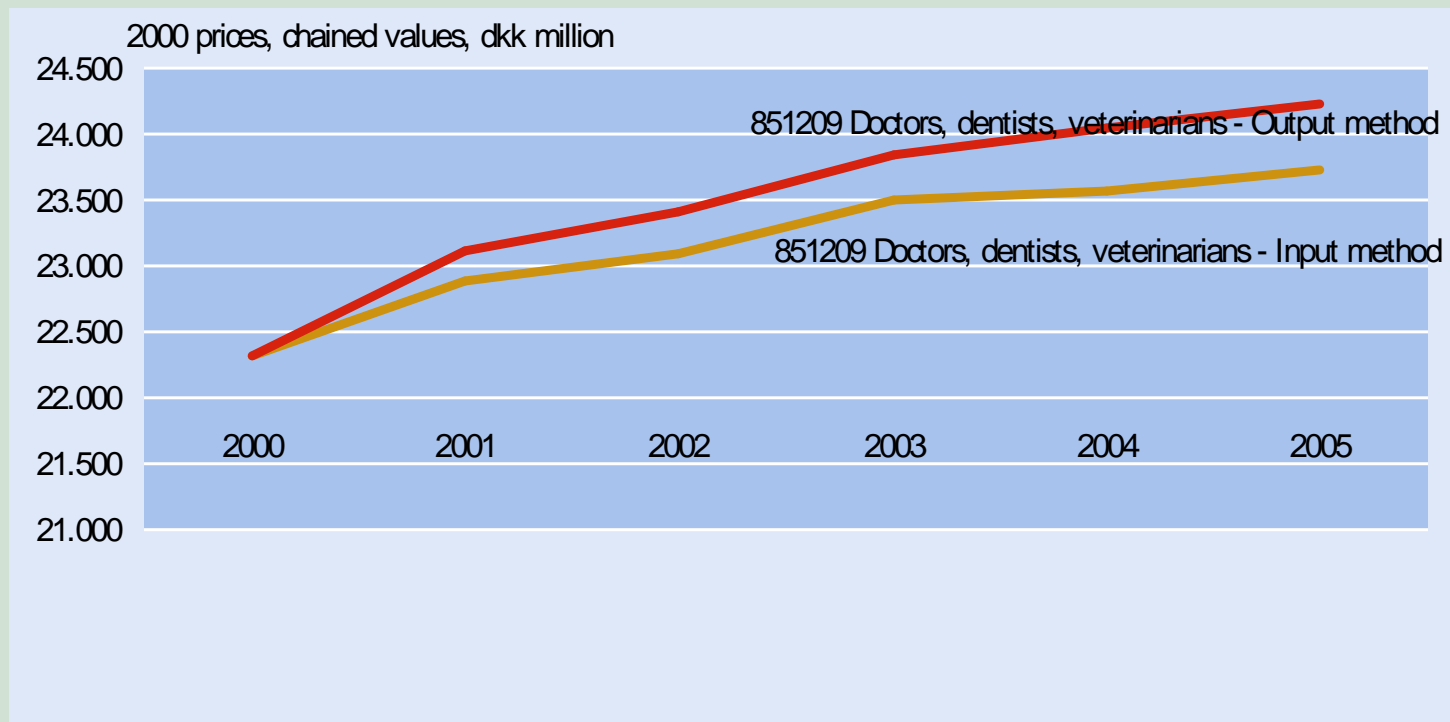
2000 prices, chained values, DKK million

	2000	2001	2002	2003	2004*	2005*
851100 Hospitals	45 679	49 024	52 542	54 554	58 125	60 906
851209 Doctors, dentists, veterinarians	22 326	23 121	23 412	23 835	24 047	24 218
853209 Social institutions for adults	48 366	50 623	52 255	53 133	49 956	47 351
	116	122	128	131	131	131
	37	76	17	44	85	95
Total	1	8	3	7	4	9

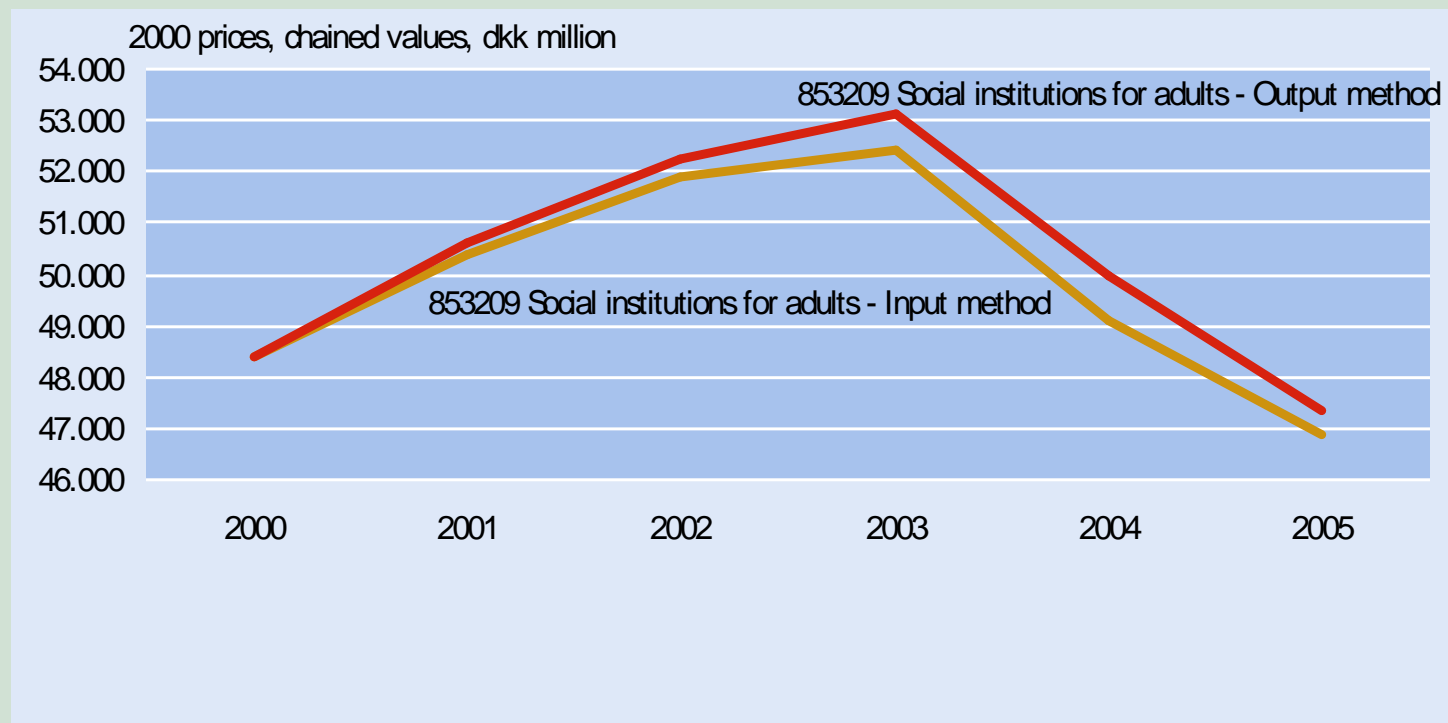
Comparison - Hospitals



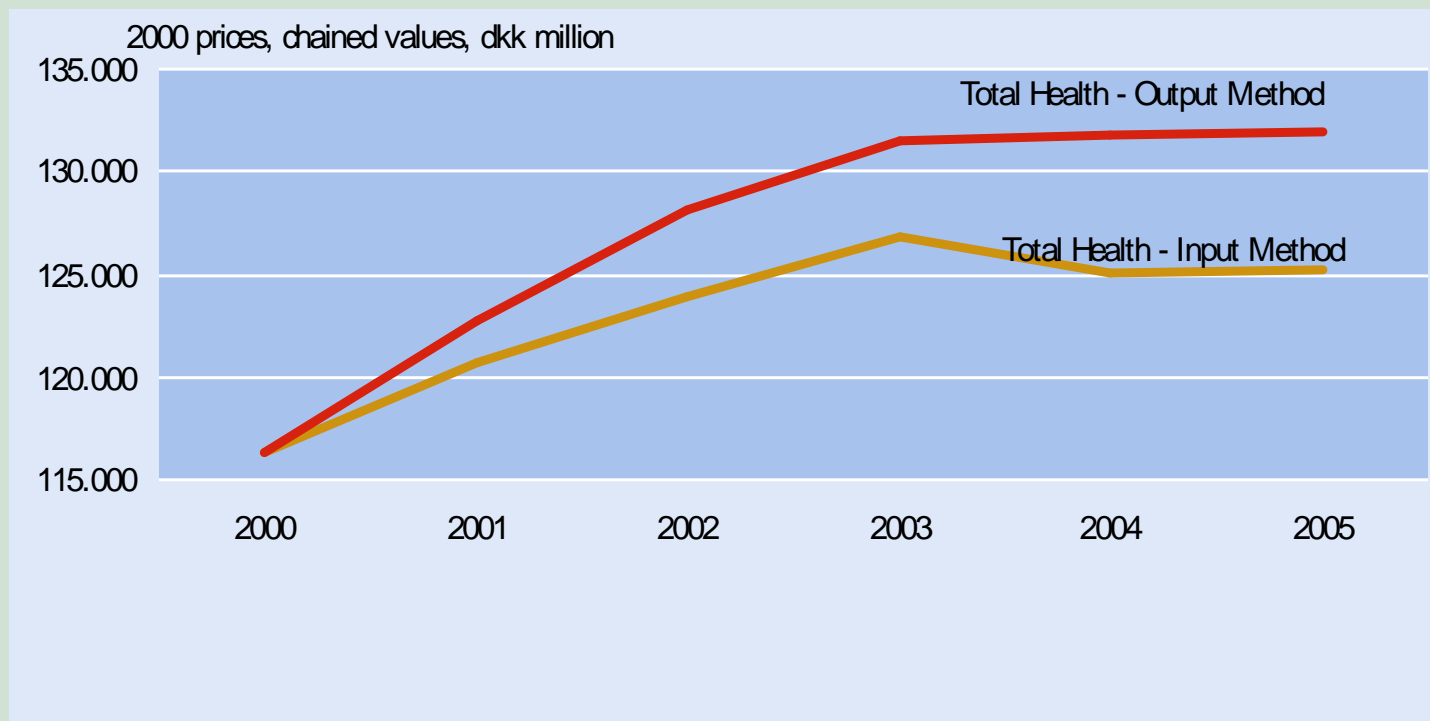
Comparison – Doctors, dentists, veterinarians



Comparison – Social institutions for adults



Comparison – Health volume



Quality indicators

- Unit of output
- Dimensions of quality
- Choice of indicators
 - dependent on data availability
 - dependent on resource availability
- Test with a very simple (mortality rate) quality correction on hospitals only
- Ongoing work with quality
- Experience from UKCeMGA

Productivity measurement - general

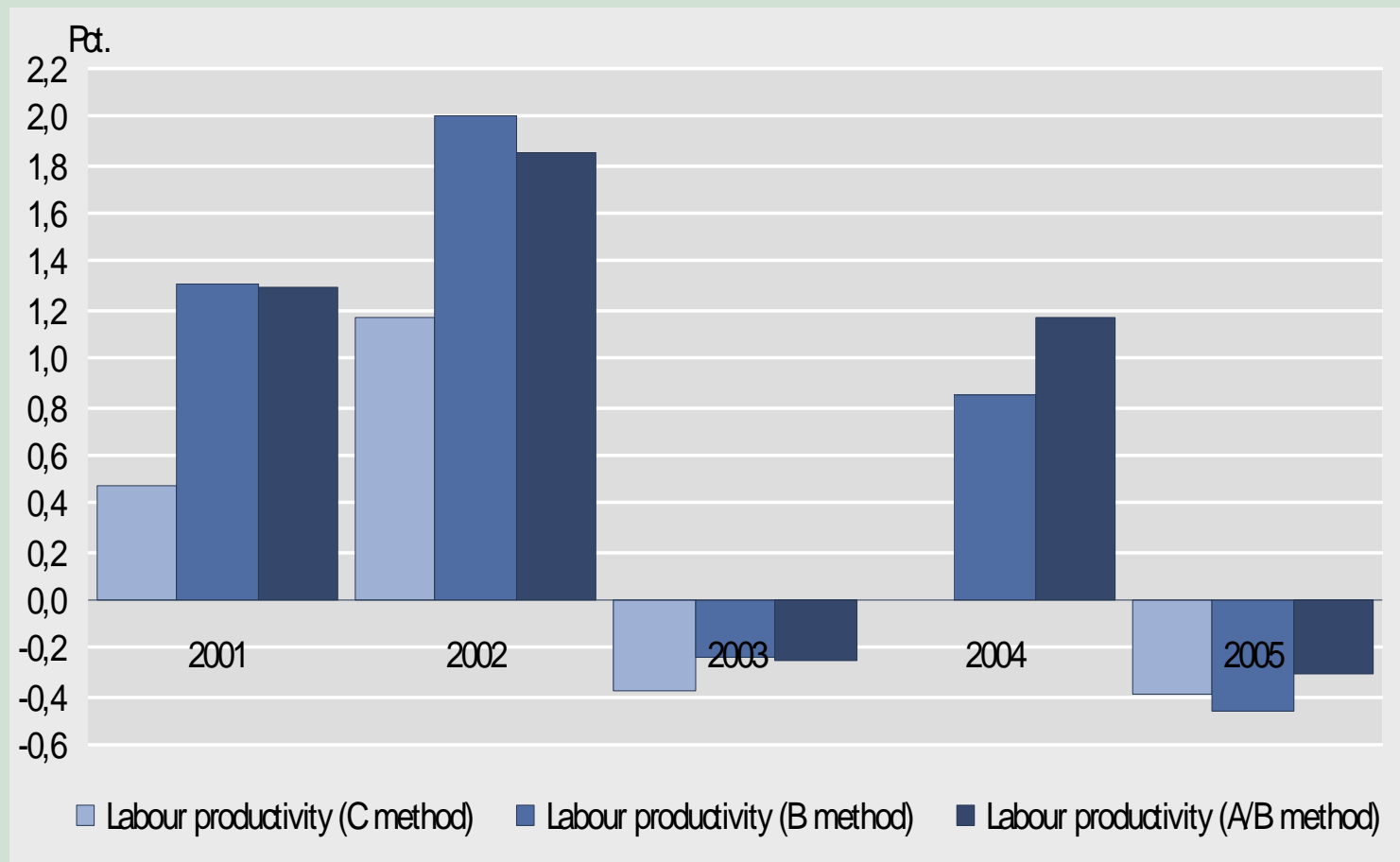
- Productivity measurement
- in general
 - » GVA divided with
 - » Hours worked
- why problem in non-market
- does output method solve problem?

Productivity measurement - Health

- Delimitation in current prices
- Delimitation of hours worked
- Volume measurement output
 - the best possible
- Gross Value Added constant prices
- $GVA/Hours = productivity$

Productivity measurement

Non-market labour productivity



Issue with quality

- How to **quantify** impact on quality
- Subjectivity
- Is it a solution to present quality indicators and the changes from one year to another
- And let somebody else choose how to quantify and weigh them together

Example - How to quantify quality

- Health – operation
 - previously done with surgery and 3 days at hospital
 - can now be done with laser without any hospitalisation
- Costs lower
- Quality higher
 - producer quality
 - user quality

Example continued

- Quality indicators of specific treatment
 - health gain
 - patient experience
- Changes in quality
 - health gain up 5 percent
 - patient experience up 10 percent

Onwards

- Output method
- Focus on satellite accounts
- Focus on indirect quality correction
- Research in direct quality correction
- Leave it out of the national accounts or?
- Consistency, robust

Close

- Thank you for your attention.