

Understanding national accounts

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Chapter 2, Constant prices

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Which variables are compiled in constant prices in NA

Supply

- + Production
- + Taxes on products
- Subsidies on products
- + Imports

(Other taxes on production and subsidies)

Use

- + Interim consumption
- + Consumption expenditure
- + Capital formation
- + Exports

Manual

- Handbook on price and volume measures in national accounts from Eurostat 2001
- A-methods – the most appropriate
- B-methods – acceptable alternatives
- C-methods – not acceptable

$$V = p * q$$

- Value in current price can be split on a price- and a volume component (price/unit*number of units)
- When adding different products they have to be weighted together and the term volume is used instead of quantity
- Price- and volume indicators must be compiled separately for each aggregate of transactions so that
- Change in value=price change*volume change
- The price component must **only** reflect the price change, so volume=quantity*quality

Price and volume indices

- Paasche price index:

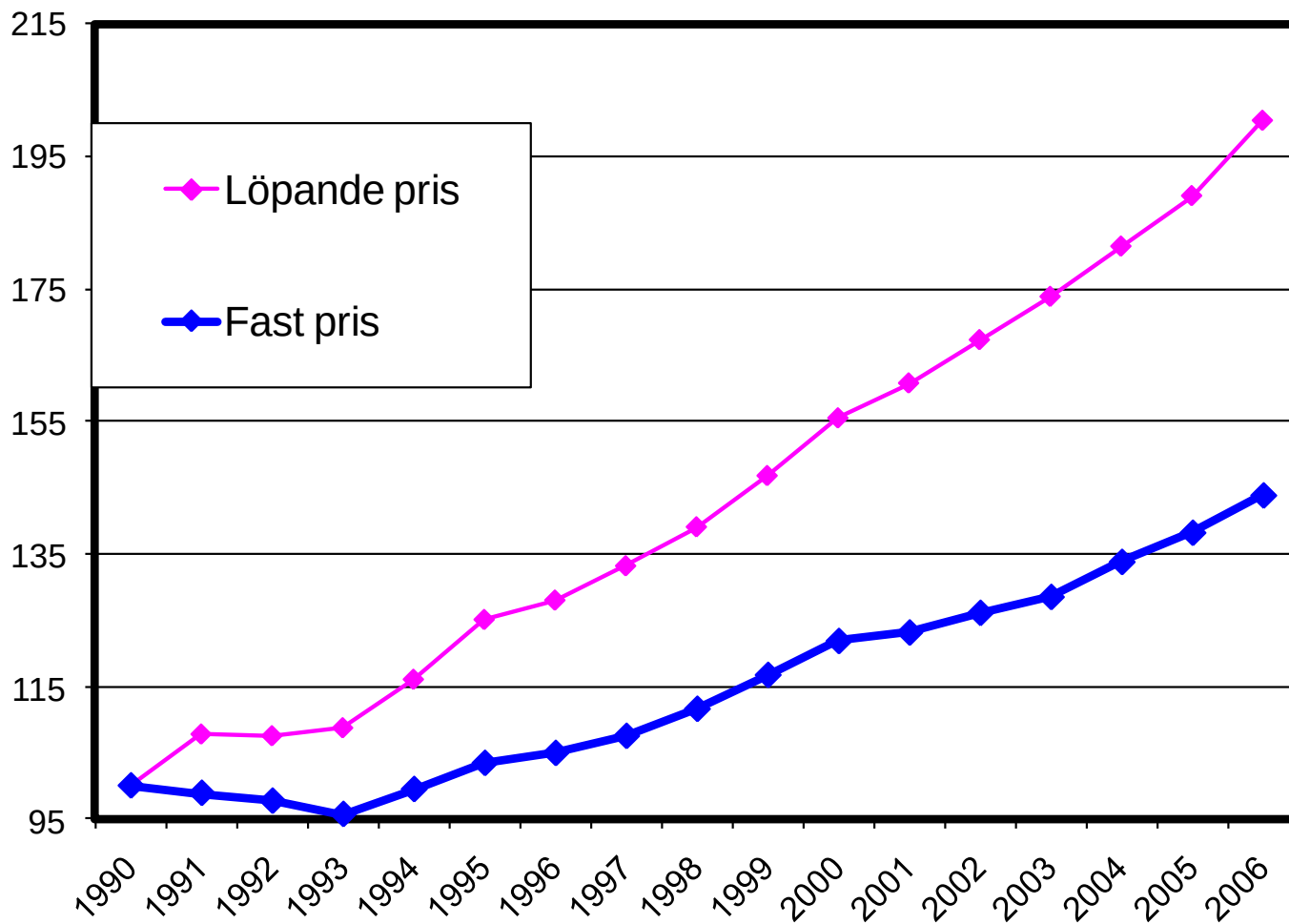
$$\frac{\text{Sum } P1*Q1}{\text{Sum } P0*Q1}$$

- Laspeyre volyme index:

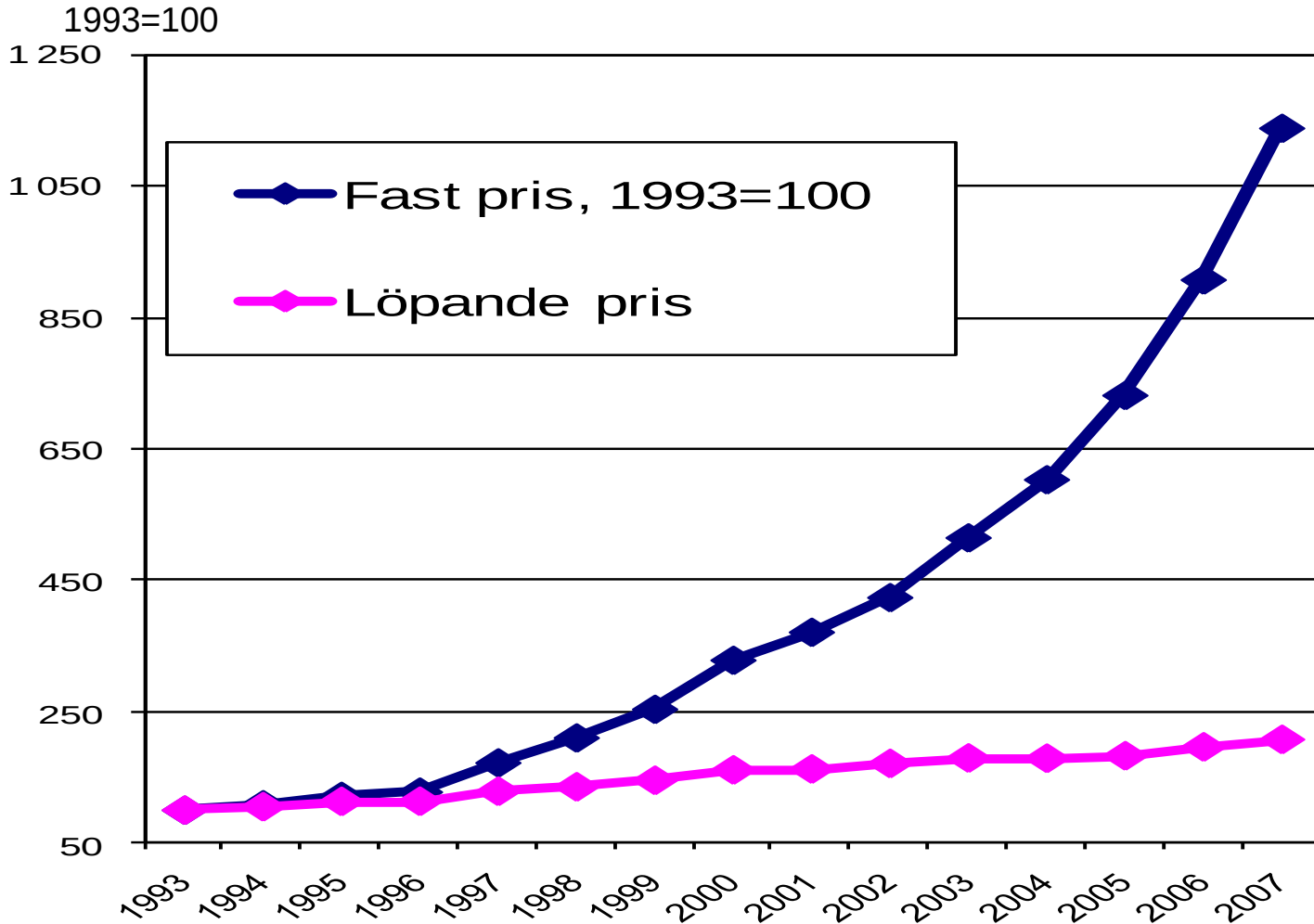
$$\frac{\text{Sum } P0*Q1}{\text{Sum } P0*Q0}$$

GDP change 1990 – 2007

Statistiska centralbyrån Statistics Sweden



Household exp of Audiovisual, photographic and information equipment



Groups of price indices used in NA

- Consumer price index
- Producer price index; home market, exports, imports
- Service producer price index
- Unit value index
- Price indices in agriculture & forestry
- Wage index in private services
- Construction price index
- Factor price index
- Implicit price index for domestic supply

Value added

- Difference between output and intermediate consumption – a balancing item residually calculated
- Is essentially an income concept- has no price or volume component
- Output and intermediate consumption are deflated separately
- AND value added will be equal to the balance of these two revalued flows (double deflation)

Real measures on income

- No distinct (entydig) volume measure exists
- Much used for household disposable income and savings
- Assumes that alternative use is konsumtion expenditure and deflates with implicit price index of household expenditure

Also GNI is compiled in real terms

GDP i constant prices

+ terms of trade-effekt

= real domestic gross product

+ primary inkome from RoW in real terms

- primary inkome to RoW in real terms

= GNI in real terms

4 price levels in our systems

- Current prices
Published
- Average prices (used for quarterly estimates)
- Constant prices (t-1)
- Reference year prices (Ref00)
Published, only additive for reference year t and t+1

Base year – Reference year

- **Base year** – the year for which values in current prices is used for weighting price and volume changes, we use t-1.
- **Reference year** – the starting year for the changing of the time series. We use t-1 in the quarterly accounts and 2005 in the annual accounts.

An indexed series has reference year = 100

Chained index method, ads and pros

- Always updated weights, updates every year
- Reference year estimates are not additive, except for t and $t+1$.

Chain index vs fixed base year



	y1	y2	y3	y4	y5
LP Computer	100	100	100	100	100
priceindex -20%	1	0,8	0,64	0,512	0,4096
FP fix base 1	100	125	156	195	244
FP t-1	100	125	125	125	125
LP food	100	100	100	100	100
priceindex +2%	1	1,02	1,040	1,061	1,082
FPp fix base 1	100	98	96	94	92
FP t-1	100	98	98	98	98
Sum LP	200	200	200	200	200
Sum fix base 1	200	223	252	290	337
Vol change		1,115	1,131	1,147	1,162
Sum FP t-1	200	223	223	223	223
Vol change		1,115	1,115	1,115	1,115

Different fixed base years



	y1	y2	y3	y4	y5
LP Computer	100	100	100	100	100
priceindex -20%	1	0,8	0,64	0,512	0,4096
FP fix base 1	100	125	156	195	244
FP fix base 5	41	51	64	80	100
LP food	100	100	100	100	100
priceindex +2%	1	1,02	1,040	1,061	1,082
FP fix base 1	100	98	96	94	92
FP fix base 5	108	106	104	102	100
Sum LP	200	200	200	200	200
Sum FP fix base 1	200	223	252	290	337
Sum FP fix base 5	149	157	168	182	200
Vol change		1,054	1,068	1,083	1,099

Why constant prices?

- NA-data used to analyse production, intermediate consumption , uses and incomes
- Analyses of volume changes requires estimates cleaned up from inflation
- This is what constant prices stands for
- Constant prices is an expression of a certain period, referred to in the price level of another period
- GDP volume change (in constant prices) is the most widely used figure from the NA

Treatment of special items

- Changes in sign from + to –
 - External balance
 - Change in inventories
 - Valuables
 - Trading gain or loss
- Income etc.
 - Disposable income of Households
 - GNI

Change in inventories and valuables

Our approach:

Change in inventories ref. as the same share of
GDP ref. as

change in inventories $t-1$ share of GDP $t-1$

The same method for valuables

GNI and more

The price index of gross domestic final expenditure is used for:

GNI

Primary income to/from RoW

Transfers to/from RoW

Used on GDP gives real GDI