

Understanding national accounts

2010-10

Chapter 4 & 5, Production and
expenditure approaches

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Productivity

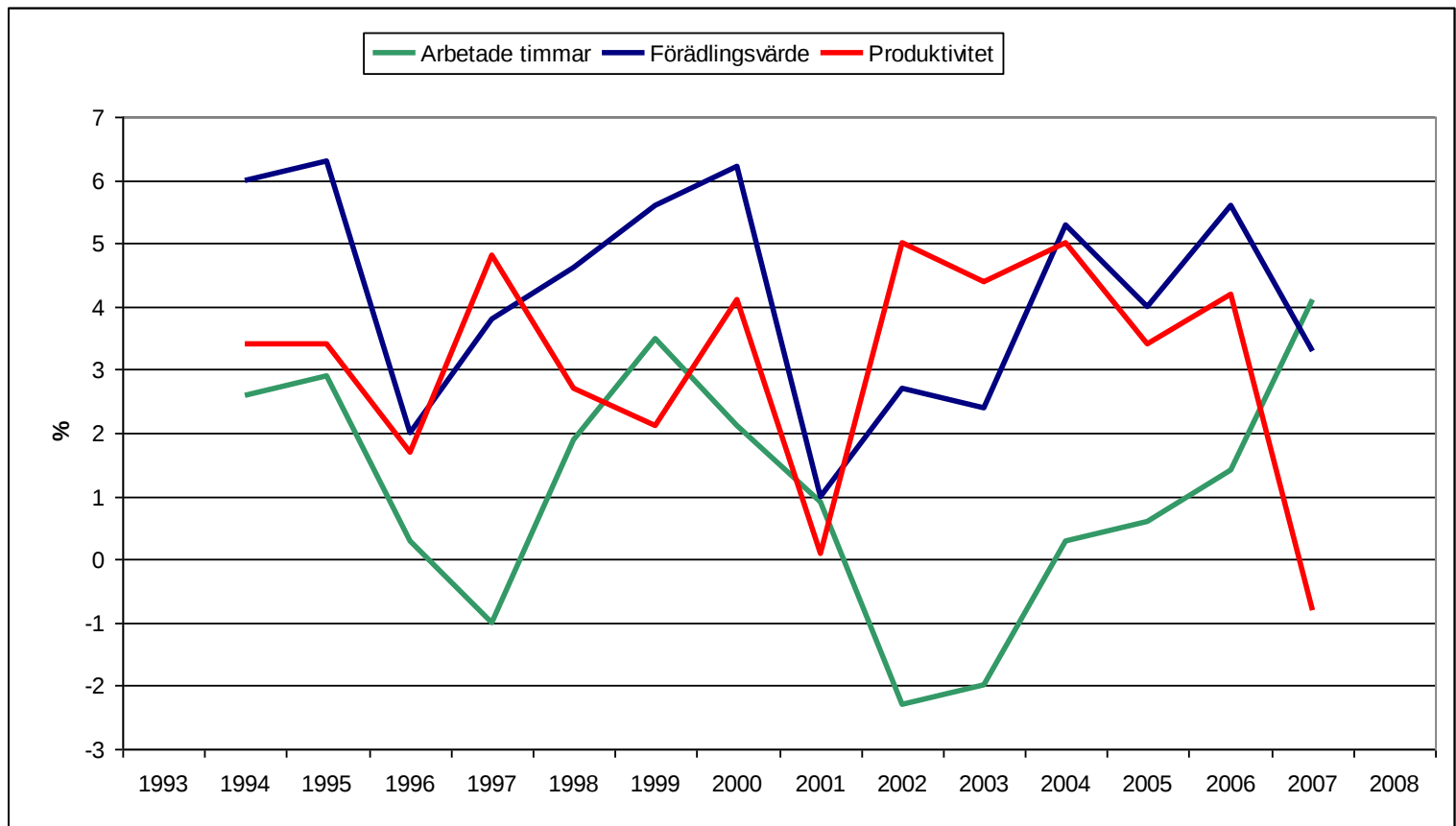
+ Output – IC = Value added

- $Y' = (F' (L, K) + \text{MFP})$
- MFP = multifactor productivity,
- Change in VA not attributed to neither labour nor capital but result of technical progress

Labour productivity market producers

SCB

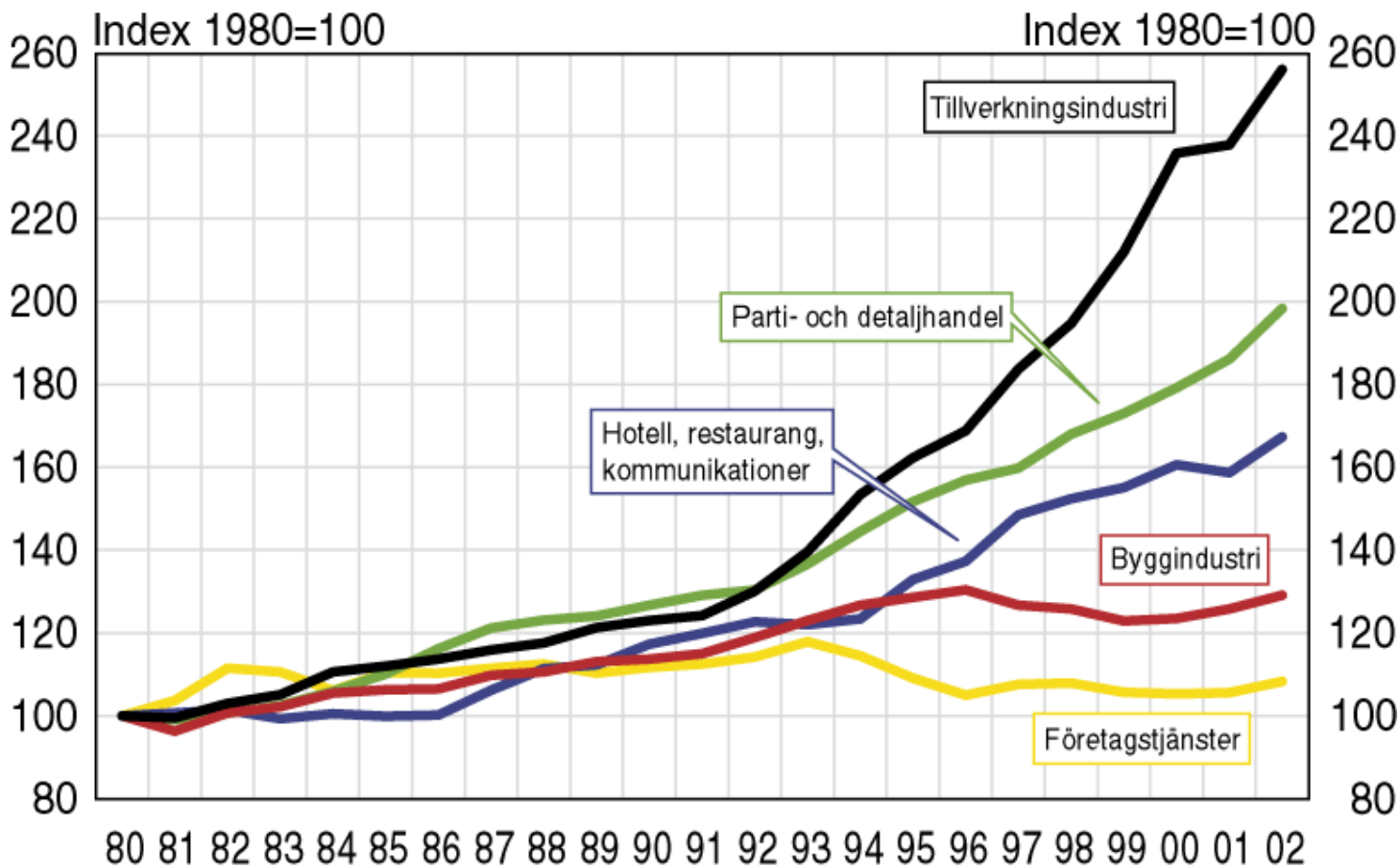
Statistiska centralbyrån Statistics Sweden



Labour productivity market producers

Output volume per hour worked

Statistiska centralbyrån Statistics Sweden



Groupings in NA

FUNKTIONAL GROUPING	INSTITUTIONAL GROUPING	OWNERSHIP
Non profit institutions serving households (NPISH)	Household sector incl. NPISH	Private
Market producers and producers for own final use	Non-financial and financial sector (icke finansiella företag resp. finansiella företag)	
Authorities	Public sector	Public

Swedish classification by activity



	Förädlingsvärde 2006, Mnkr	Andel
A AGRICULTURE, HUNTING AND FORESTRY	35 570	1,4%
B FISHING	684	0,0%
C MINING AND QUARRYING	16 161	0,6%
D MANUFACTURING	499 657	19,7%
E ELECTRICITY, GAS AND WATER SUPPLY	72 034	2,8%
F CONSTRUCTION	120 299	4,7%
G WHOLESALE AND RETAIL TRADE	282 747	11,1%
H HOTELS AND RESTAURANTS	37 782	1,5%
I TRANSPORT, STORAGE AND COMMUNICATION	184 973	7,3%
J FINANCIAL INTERMEDIATION	93 418	3,7%
K REAL ESTATE, RENTING AND BUSINESS ACTIVITIES	550 271	21,7%
L PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY	124 160	4,9%
M EDUCATION	140 155	5,5%
N HEALTH AND SOCIAL WORK	273 610	10,8%
O OTHER COMMUNITY, SOCIAL AND PERSONAL SERVICE ACTIVITIES	103 926	4,1%
P PRIVATE HOUSEHOLDS WITH EMPLOYED PERSONS	805	0,0%
Q EXTRA-TERRITORIAL ORGANIZATIONS AND BODIES	0	0,0%
SUMMA FÖRÄDLINGSVÄRDE TILL BASPRIS	2 536 252	100,0%

Primary statistics and NA

Three kinds of basic information för compilations

- Level estimates from the source
- Indicators for extrapolation
- Models

Adapts at the NA

- Sources adapted to NA definitions
- Known systematic differences adjusted
- Checks of ev. faults and inconsistencies
- Alternative sources checked
- Balancing supply/use

Sources: Manufacturing Industry and services

Main source: Structural Business Statistics (FEK), Industrial production of goods (IVP)

Adjustments made for NA definitions:

changes in stocks, financial leasing, insurances, 1-2-year investments, software bought, some other income and costs estimates, other taxes on production etc

Sources



Statistics Sweden

Statistiska centralbyrån

- Output
 - Business statistics (SBS)
 - Industrial production of goods (IVP)
 - Energy, Agriculture, Forestry, Financial
 - Producer-/service price index (PPI, TPI)
- IC
 - Business statistics (SBS)
 - Cons. of goods and services by industry (INFI)
 - Price index for domestic supply (IHT)
- Employment
 - Business statistics (SBS)
 - Others

More sources



Statistics Sweden

Statistiska centralbyrån

- Wages
 - Income statements (LSUM)
 - Business statistics (SBS)
- Exports/imports
 - Foreign trade statistics, goods & services, Extra, Intrastat, Transfers
 - EXPI/IMPI/Service price index/Wage index
- Household cons.
 - HBS
 - Turnover statistics
 - "Line of products" statistics
 - Annual statements
 - Vehicle register
 - Consumer Price Index

Even more sources



Statistics Sweden

Statistiska centralbyrån

- Investments
 - Business statistics (SBS)
 - Investment surveys
 - Changes in inventory surveys
 - Price index for domestic supply (IHT)
- Gvt. Production & consumption & GFCF
 - Swedish Financial Management Authority (ESV)
 - Statistics Sweden's summaries of local government and county councils
 - Price index for domestic supply (IHT)

Model based items

Owner occupied houses, co-operative flats

Flat with right of tenancy

FISIM

Consumption of fixed capital

Own produced software

Car benefits (other benefits in kind)

Owner occupied houses

In NA house owners let their houses to themselves and produces dwelling services

Production value: Income from rents

IC: FISIM, sewage, waste water, garbage, repairs, etc

Consumption of fixed capital

Operating surplus

Dwellings

- Stratified compilation (year, region, size)
- Actual rent/Rent for an equal dwelling(HiB)
- Dwelling area (HEK, HiB, fastighetstaxering)
- $\text{Rent incl heating} = \text{Rent sqm} * \text{dwelling area}$
- $\text{Rent excl heating} = \text{Rent incl heating} - \text{heating expenses}$

Transport activities - specialities

Margin activities

forwarding

travelling agencies

Subsidies, transfers

Mix of private and public entrepreneurs

Mix of actors corporations and public actors, e.g. SL/Region Skår

Mix of activities, e. g. charter and sheduled traffic

Capital injections

Internal transactions

between mains operations and entrepreneurs

Banverket and train entrepreneurs

Taxicentrals and taxi entrepreneurs

Lorrycentrals and hawlers

Diverse

Foreign hawlers, carbotage

Re-organisations

Opening for private entrepreneurs

Price indices

Wholesale and retail trade

- Output value = trade margin
- Total trade margin in the economy is compiled within the NA-system as a percentage increment on the basic value on each product
- Trade margins in other industries than wholesale and retail trade are withdrawn from the total amount
- Then only trade margins in wholesale and retail trade remains
- Value added from structural business statistics is used
- Intermediate consumption is compiled as a residual item

Financial services

- Loans and deposits constitute use of a bank service – FISIM (financial services indirectly measured)
- There is no observable price
- The difference between real rate of interest and a reference rate of interest
- Reference rate = inter bank rate (implicit)
- Stocks of loans available at sector and aggregate industry level
- Sources: Financial market statistics and quarterly reports from the banks
- Also explicit service charges for provisions, courtage and other fees

Financial corporations

- Output value of Credit market instituts =
FISIM + provisions (courtage, etc) + fees for services
- Output value of Non-life insurance = Premium
supplements + Change in technical provisions –
Claims paid
- Output value of Life insurance =
the sum of cost approach when estimating the output,
service charge, of life insurance

Hidden activities

- Tax agency – tax revisions 98-2003
- 25 industries
- Grouping of differens units like private entrepreneurs with/without employees
- Limited companies according to size of wages
- Compilation of hidden income in relation to white income

Other checks

- Compare entrepreneurs – employees income
- medium income (51%), living standard, food expenditure
- Attitudes to black income among entrepreneurs and employees respectively
- services bought and accomplished
- Goods bought under the counter
- Check of people with zero income
- Unregistered young workers in Gothenburg

Results, hidden income/white, %

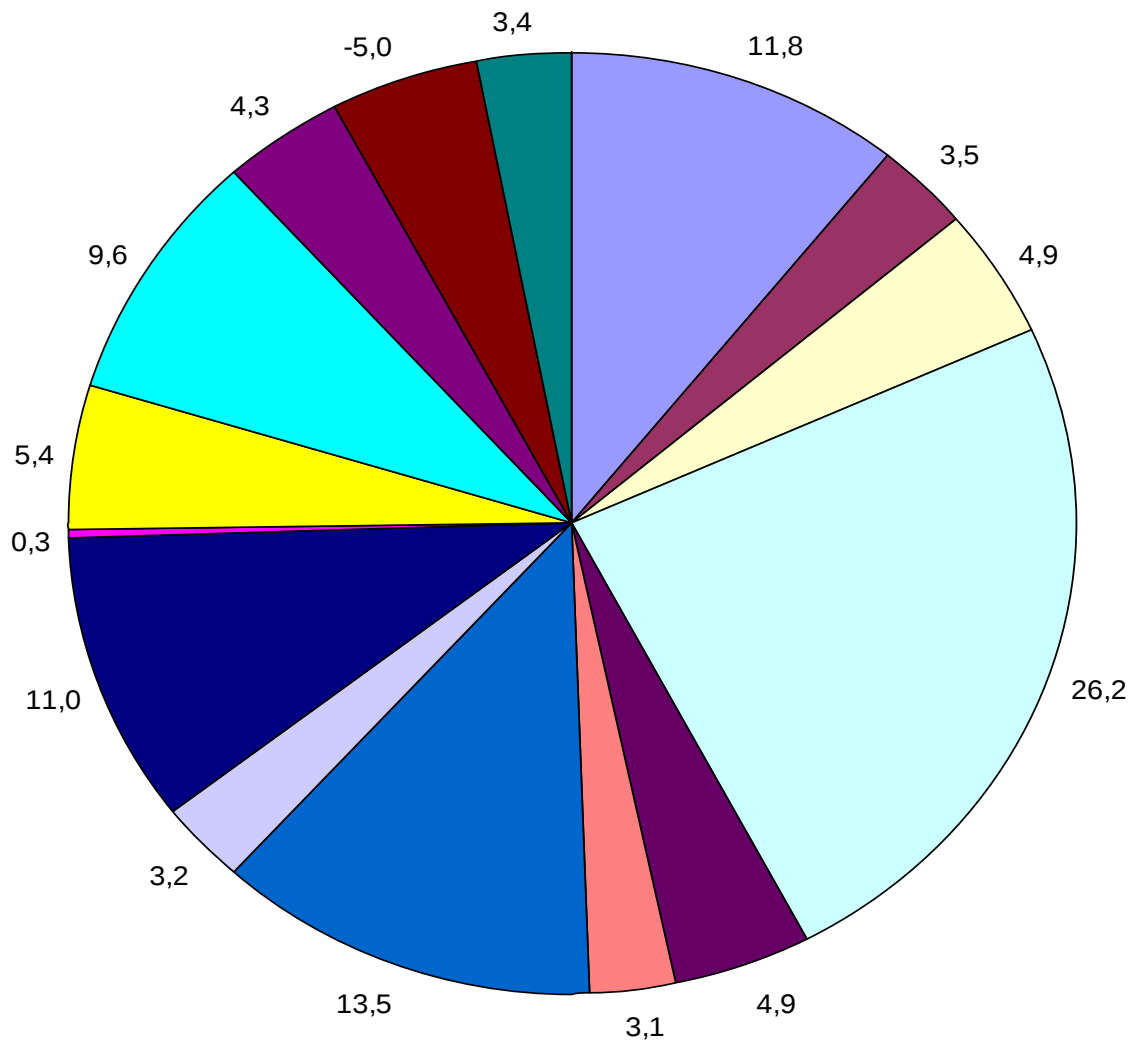


Jordbruk	35
Skogsbruk	25
Fiske	77
Gruvor o mineralutv.industri	1
Tillverkningsindustri	2
El-, gas, värme-, vatten,reningsv.	0,4
Byggindustri	12
Bilservice	25
Livsmedelsbutiker och tobakshandel	9
Övrig parti- och detaljhandel	8
Hotell, camping mm.m.	8
Restauranger och barer	52
Annan köksverksamhet	12
Taxi	37
Vägtransport av gods	11
Övriga tranport, magasin	2
Kreditinst, försäkringsbol	1
Fastighetsförvaltning	11
Lokalvård	19
Uthyrn.,ftgservicefir ex lokalvård	11
Utbildn, hälso,sjukvftg	12
Avloppsren,avfallshant	1
Hårvård och skönhetssalonger	45
Övriga personliga tjänster	17

Household final consumption exp per COICOP



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- 01 Livsmedel och alkoholfria drycker
- 02 Alkoholhaltiga drycker, tobak
- 03 Kläder och skor
- 04 Bostad, el, gas och uppvärmning
- 05 Möbler, hushållsart. o rutinunderhåll
- 06 Hälso- och sjukvård
- 07 Transporter
- 08 Kommunikation
- 09 Fritid, underhållning och kultur
- 10 Utbildning
- 11 Hotell, caféer och restauranger
- 12 Övriga varor och tjänster
- 15 Hushållens konsumtion i utlandet
- 16 Utländsk konsumtion i Sverige
- 16 Hushållens icke-vinstdrivande org

Consumption expenditures incl

Inkludes for instance:

- Owner occupied dwelling services
- Income in kind (car benefits, PC)
- Durable consumption goods incl second hand
- Payments for some licences and permits (driving licences, TV- and radio licences)

Consumption exp excl

E.g.:

- IC of private entrepreneurs
- Purchases of dwellings, real estate
- Houseowner's expenses of maintenance and repair of dwellings
- Taxes
- Member fees to NPISH
- Voluntary contributions

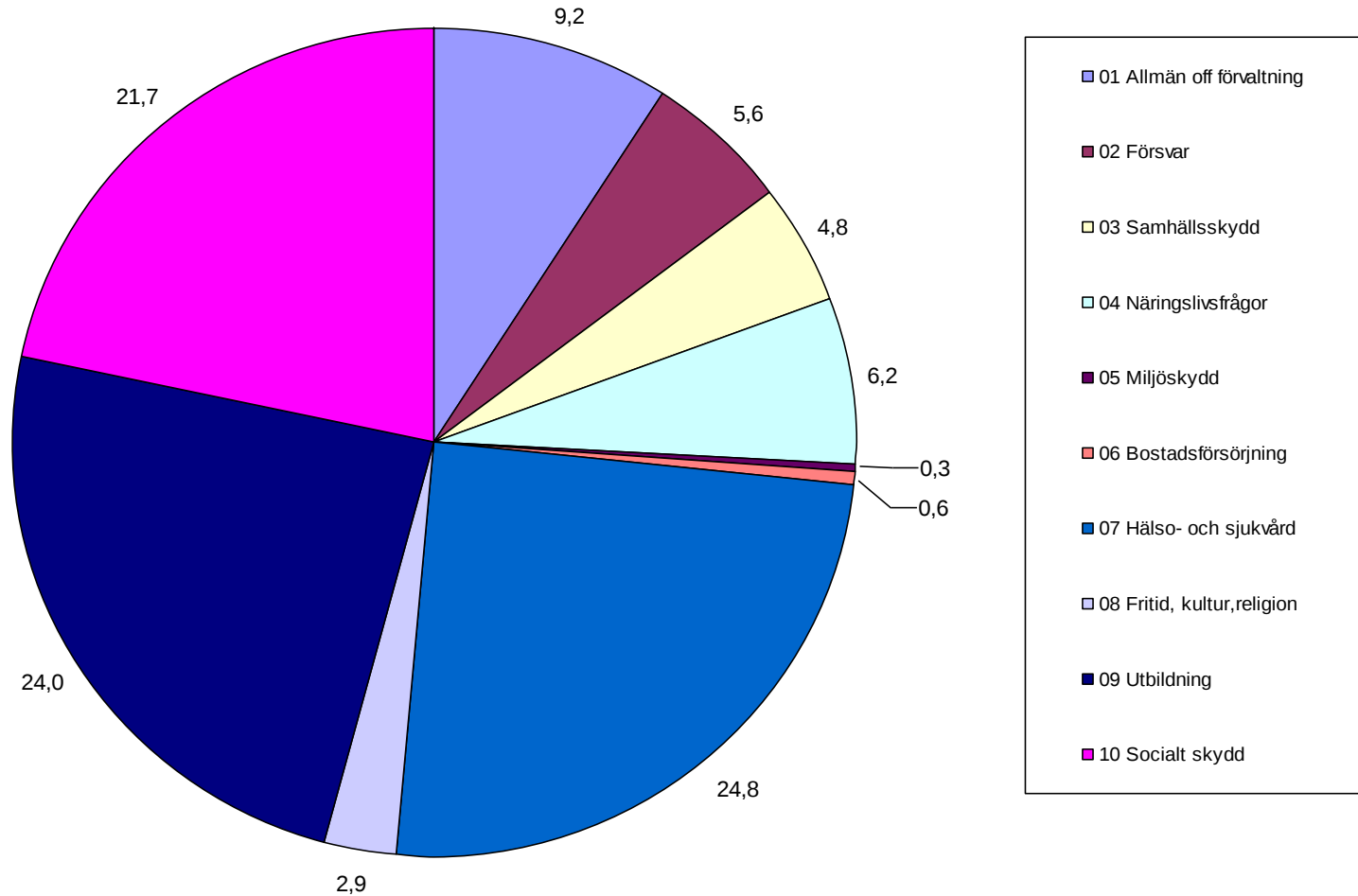
Consumption exp matrix

Enligt SCB-kod		Storm	Livs	Ann det	Spec livs	Alkohol	Tobak	Apotek	Sjukv	Textil	Kläder	Sko, läd	Möbler	Utrustn	Hhapp
COICOP	Beskrivning	52111	52112	52120	522XX	52250	52260	5231X	5232A	52410	52420	52430	5244X	5244Y	52451
0111	Bröd och konditorivaror	0,08	0,11	0,01	0,12	0,00	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0112	Kött och köttprodukter	0,12	0,13	0,01	0,06	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0113	Fisk och skaldjur	0,04	0,04	0,00	0,10	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0114	Mjök, ost, ägg	0,09	0,13	0,00	0,01	0,00	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0520	Gardiner, persienner, hushå	0,01	0,00	0,02	0,00	0,00	0,00	0,00	0,00	0,39	0,00	0,00	0,12	0,02	0,00
0531	Vitvaror, dammsugare etc	0,01	0,00	0,02	0,00	0,00	0,00	0,00	0,00	0,01	0,00	0,00	0,00	0,07	0,59
0532	Elektriska hushållsapparater	0,00	0,00	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,03	0,08
0713	Cyklar, mopeder	0,00	0,00	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
0721	Reservdelar till fordon	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
07221	Bensin, diesel etc	0,00	0,00	0,00	0,03	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
X100	Ej privat konsumtion	0,00	0,00	0,00	0,01	0,00	0,00	0,00	0,00	0,03	0,02	0,05	0,05	0,00	0,13
Tot	Totala försäljnings	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00

N P I S H

- Non profit institutions serving households
- Small sector in Sweden
- Trade unions, religious sects, sports clubs, cultural organisations
- Based on information on wages and investments previously
- Now an annual survey (but not compulsory)
- Will be separated from households

Govt final cons exp per COFOG



Government expenditure

mdr kr

+ Intermediate consumption	264
+ Wages	287
+ Social contributions	113
+ Other taxes on production	17
- Other subsidies on production	4
+ Consumption of fixed capital	51
= Production	728
- Sales	114
+ Social benefits in kind	77
= Total consumption expenditure	691
Value added = Prod - IC	464



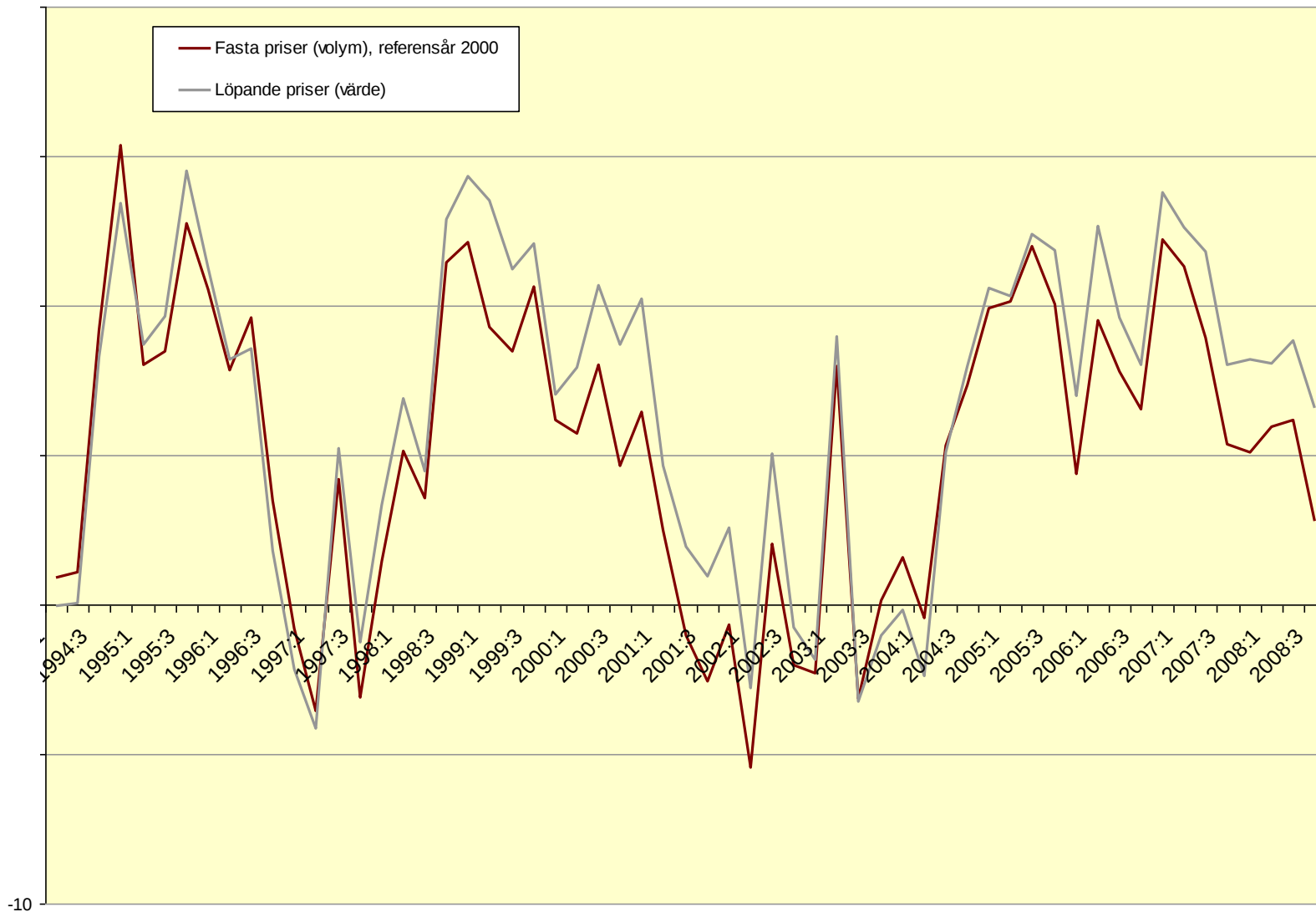
Capital types investments

- **Material assets**
 - Machinery and stocks
 - Transport equipment
 - Dwellings and other buildings and structures
 - Cultivated assets
- **Immaterial assets**
 - Software
 - Mineral prospecting
 - Artistic and literary originals

Gr Fixed Capital Formation

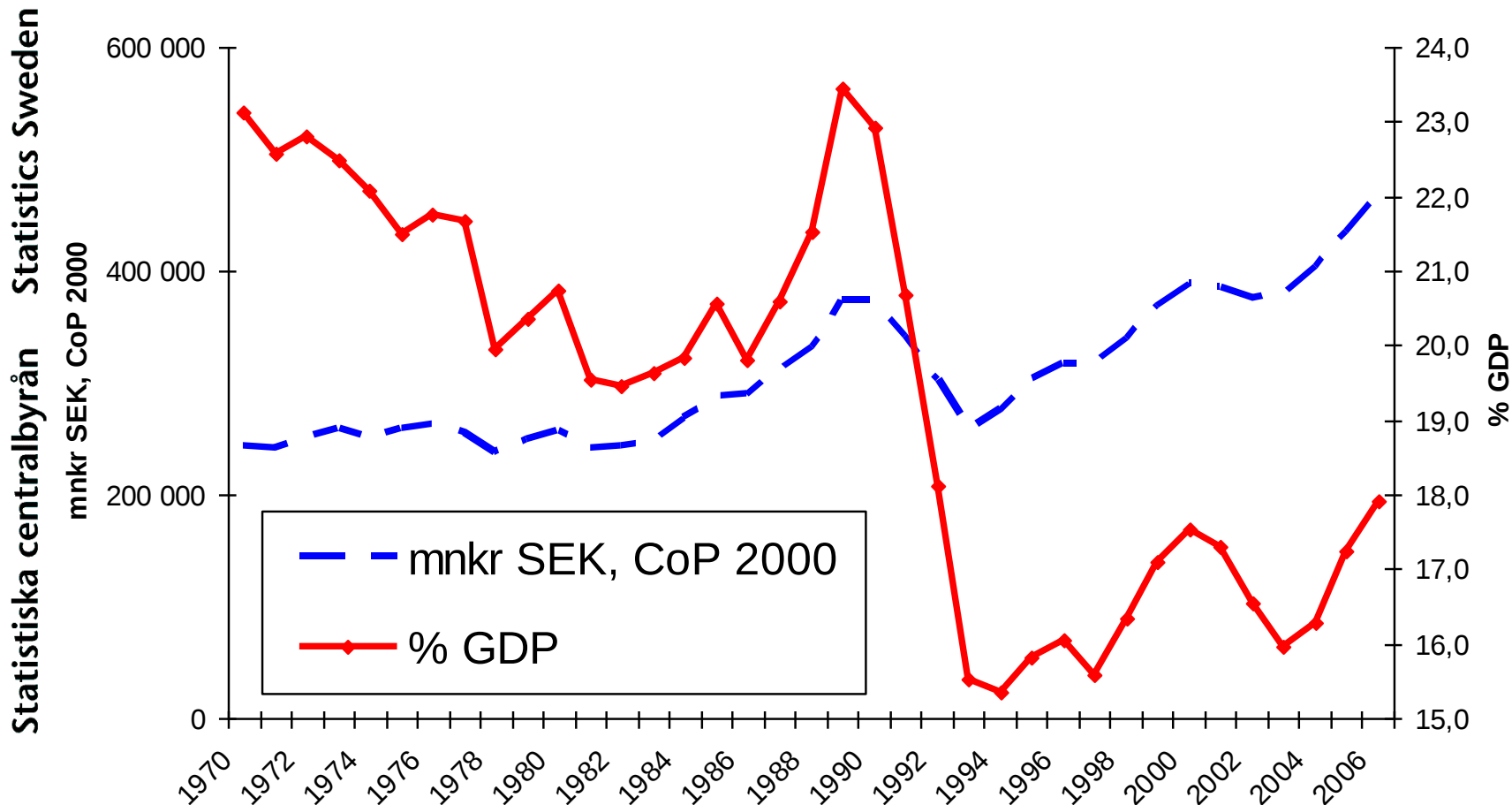


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Gross fixed capital formation 1970-2006

SCB



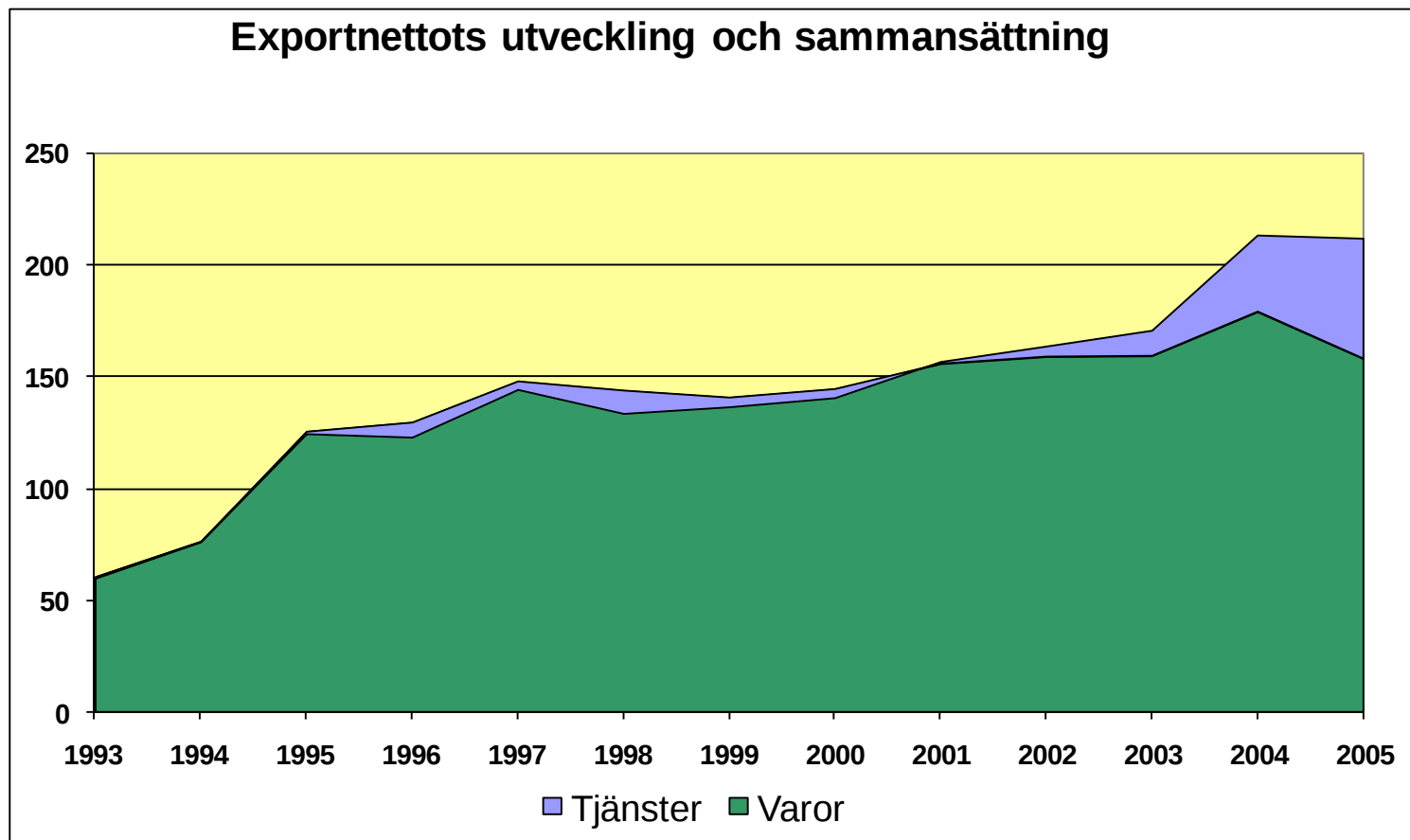
Capital stocks and C F C

- The Perpetual Inventory Method used for constructing estimates of capital stocks

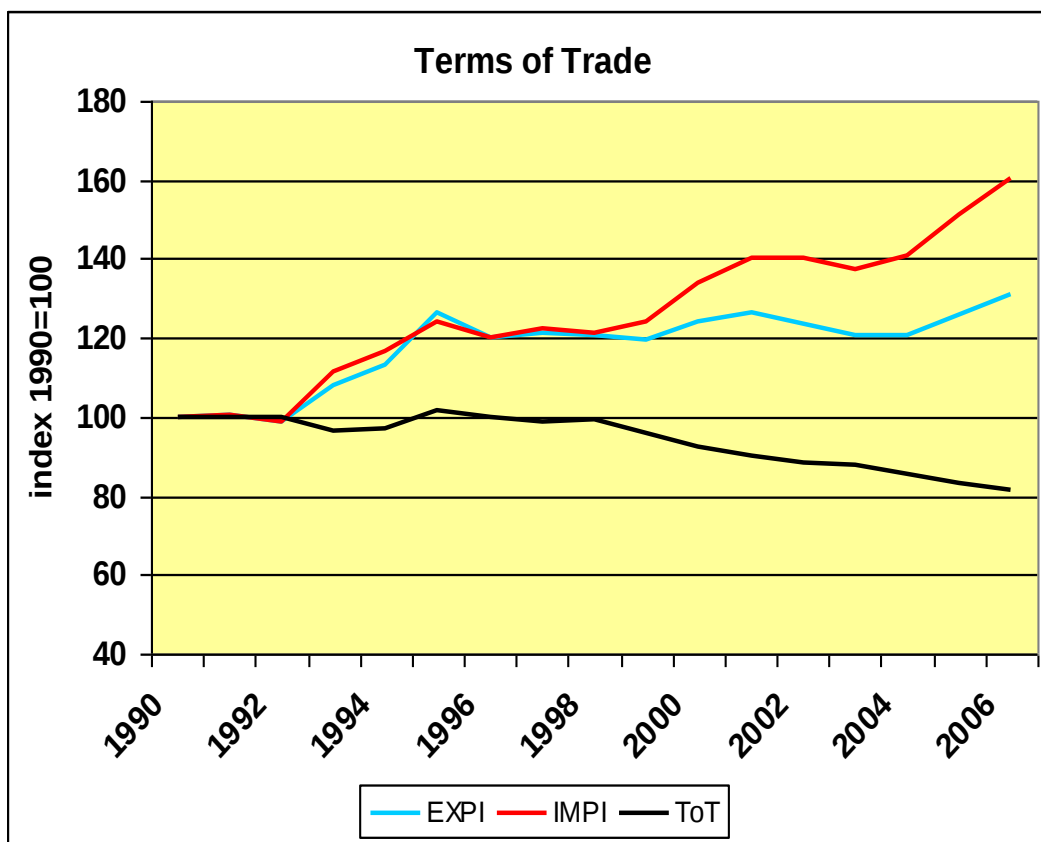
$$\mathbf{K}_t = \mathbf{I}_t + (1 - \delta) \mathbf{K}_{t-1}$$

- $\mathbf{K}_t$ is capital stock
- $\mathbf{I}_t$ is gross investment
- δ is the constant rate of depreciation
- under a geometric assumption

Net exports



Terms of trade



Vad Sverige
betalar för import i
termer av export

Importpriserna har
ökat starkare

ToT har
försvagats

Quarterly accounts

- Same quarter previous year as base
- Level estimates according to latest annual estimates
- Estimates in current and constant prices
- Balancing production – expenditure side
- Chaining, reference year prices
- Calendar adjustments
- Seasonal adjustments

Quarterly GDP, in short

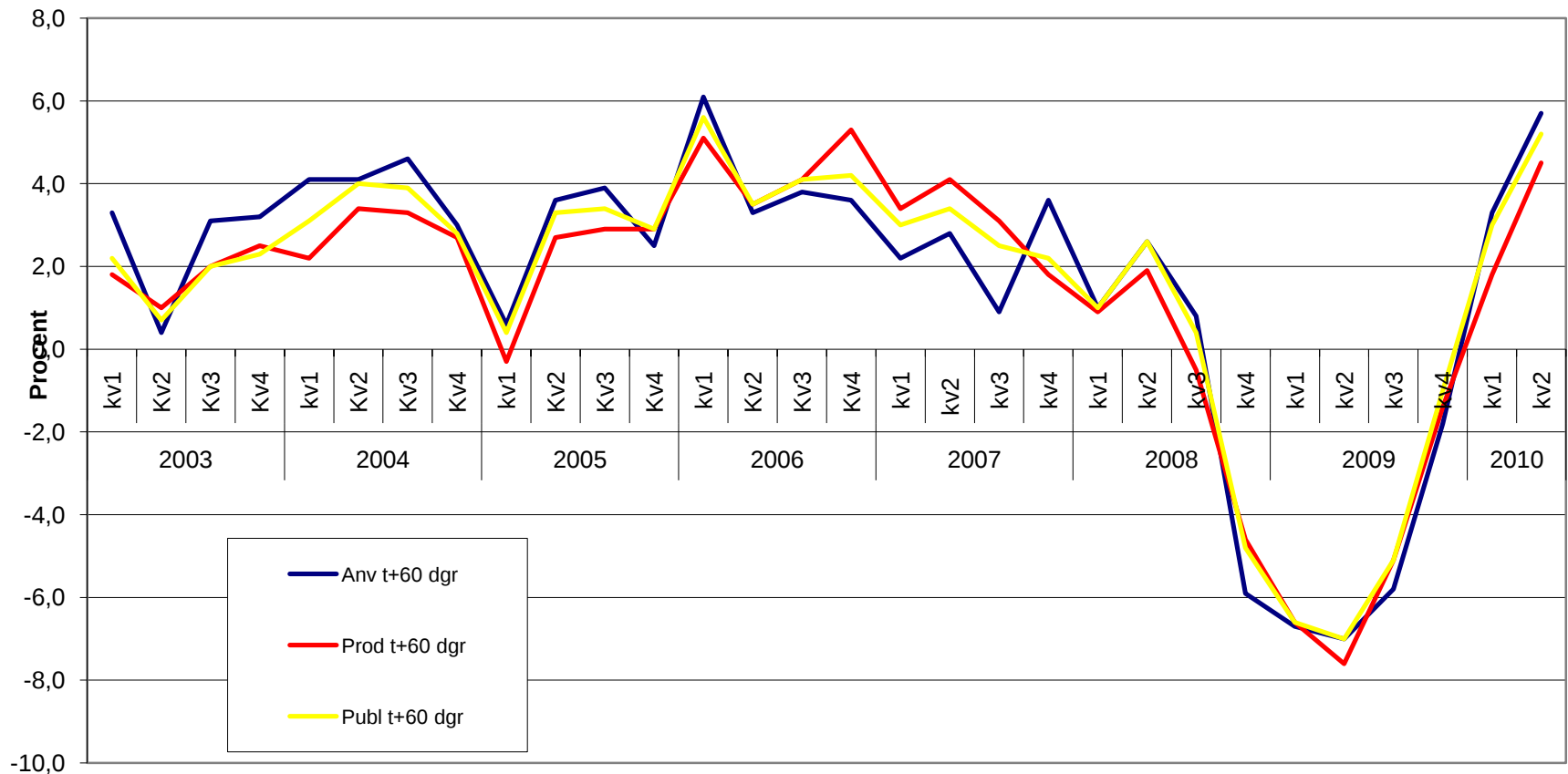
- VA extrapolated with indicators
- Aggregated levels
- Preliminary sources, sample surveys
- Fixed input coefficient ($=IC/Output$)

GDP quarterly

-
- Output value
- - Intermediate consumption
- = Value added (*Producer price index*)
- + Product taxes
- - Product subsidies
- = GDP at market price

Balancing production – expenditure side

GDP percentage change actual estimates



Balancing

Analysis by activity

- Productivity (VA/hour)
- Wage/hour

Supply/use by product

- Analysis by product , Quarterly supply and use tables
- Production/exports etc.

National accounts

- National accounts, quarterly and annual compilations
- National accounts, older series
- Regional accounts
- Expenditure for social protection and financing in Sweden and Europe (ESSPROS)
- Excessive deficit procedure, EDP
- Satellite accounts health care
- Tourism satellite account
- Financial accounts
- Savings barometer

Prostitution



Statistics Sweden

Statistiska centralbyrån

Typ	No of prostitutes	No of contacts per year and prost.	Price (Kr) /occation	SumMkr
Street	425	200	1000	85
Internet	100	500	2500	125
Clubs	500	150	5000	375
Sum	1025			585

Household expenditure, imports and production of smuggled alcohol and tobac and home production in 2003 , Mkr

Item	Consumption	Imports	Production
Liquer	514	375	139
Vine	167	89	78
Beer	1055	558	497
Tobac	150	75	75
Home production	736	0	736
Sum	2662	1097	1525

Household consumption exp, imports and production of narcotics in 2001, Mkr

Item	Consumption	Imports	Production
Amfetamin	382	82	300
Heroin	1 748	317	1431
Cannabis	120	61	59
Narc. drugs	22	12	10
Ecstasy	14	4	10
Sum	2 286	476	1810

Illegal gambling

- Investigation by Lottery Inspectionen/police
- Anonymus check of 2 125 sites in 2003
- Information from police districts
- At least 3 000 illegal game machines
- "Estimated" turnover 4 billion SEK

Illegal value added in some countries, % of GDP

- Estland, 1998 0,8 D+P+audio-videocopies
- Lettland, 1998 0,97 D+P
- Litauen, 1998 0,5 D+P+F(faud with cars)
- Polen, 1998 0,13 D; 0,20 P; 0,21 S+F
- Slovakien, 1998 0,59 D+P+F
- UK, 1996 0,5-1,1 D; 0,2 P; 0,2 (game)+F
- Finland, 1998 0,1-0,2 D+P+S
- NL 2000 <1, of which 0,1 P

- Källa: UN, Geneve, samt rapporter från NL o Finland