

# *Understanding National Accounts*

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## Chapter 1

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# *Disposition*

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- Introduction to national accounts
- Identities
- Some aggregates
- How to calculate GDP
- Dissemination

# National Accounts

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- "the presentation in a rigorous accounting framework, of all the quantitative information relating to the nation's economic activity"
- *Edmond Malinvaud, French economist*
- Everything *made* by someone is *used* by someone else, anything *exported* by someone is *imported* by someone else, anything *saved* by someone is *invested* by someone else, etc
- **In a perfect world of statistics**

# *National accounts is ...*

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A book keeping system

- Grasping transactions and balances for a whole nation
- Based on aggregates from administrative registers and statistical surveys

## *Identities in NA*

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- Results are completely consistent
- Totals are equal to the sum of the parts,
  - up-down, left-right, matrixes
- Resources are equal to the uses
- Best methods, but anyhow re-evaluations, guestimates, revisions, models, balancing, quality, **timeseries**

## *NA can be used to ...*

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- -analyse unemployment, business cycles, investment and consumption patterns over time
- -for international comparisons – where are we in relation to other countries; look at employment, incomes, cycles – GDP compilations should be harmonized (principly) in all countries
- -calculate our EU-membership fee – not too much, not too little

## *and analyses by industry ...*

- -What contribution from your industry to total GDP
- -How many people find employment in a certain activity?
- -What is the regional situation like?
- -How about your municipality?

## *NA by sector*

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- National accounts, according to the international standard SNA93, provide comparable macroeconomic data by countries. One of the major indicators is the gross domestic product (GDP). They provide also comprehensive data by institutional sector (general government, corporations, households, rest of the world etc.). Thus, one can find an assessment of the disposable income, saving, net borrowing / net lending, as well as of stocks of assets and liabilities of the sectors.



# *NA – brief history*

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Studies of business cycles, Wage structures, food supply,  
Financing of UN, Administration of postwar  
reconstruction 1934, 1941

Gösta Bagge, Erik Lindahl, Gunnar Myrdahl, Ingvar Olsson  
1950-ies Konjunkturinstitutet, 1963 to SCB

UN, OECD, EU – Harmonizing

In the beginning GNI, later also constant price estimates,  
Richard Stone: Marchall plan)

EU-membership fee and konvergence criteria, (Maastricht)

Annual accounts – now much focus on quartely accounts

# *Basic information*

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Requisites:

- Output/production & intermediate consumption
- All actors within a certain territory
- A certain period of time

Be ware of

- Double counting, example production vs intermediate consumption (IC)
- Hidden and illegal activities
- Definitions

# How to get value added & GDP?

## Market production:

+ Output  
- Interm. Consumpt.  
= Value added

principally wages & profits incl  
taxes on production, net

+ Taxes on products,  
- Subsidies

= GDP at market price

Production not sold on the  
market, compiled as costs of  
production i.e.:

Output =  
Wages  
Compensation of employees  
Comp. of fixed capital  
Interm consumption  
Taxes on production  
- Subsidies

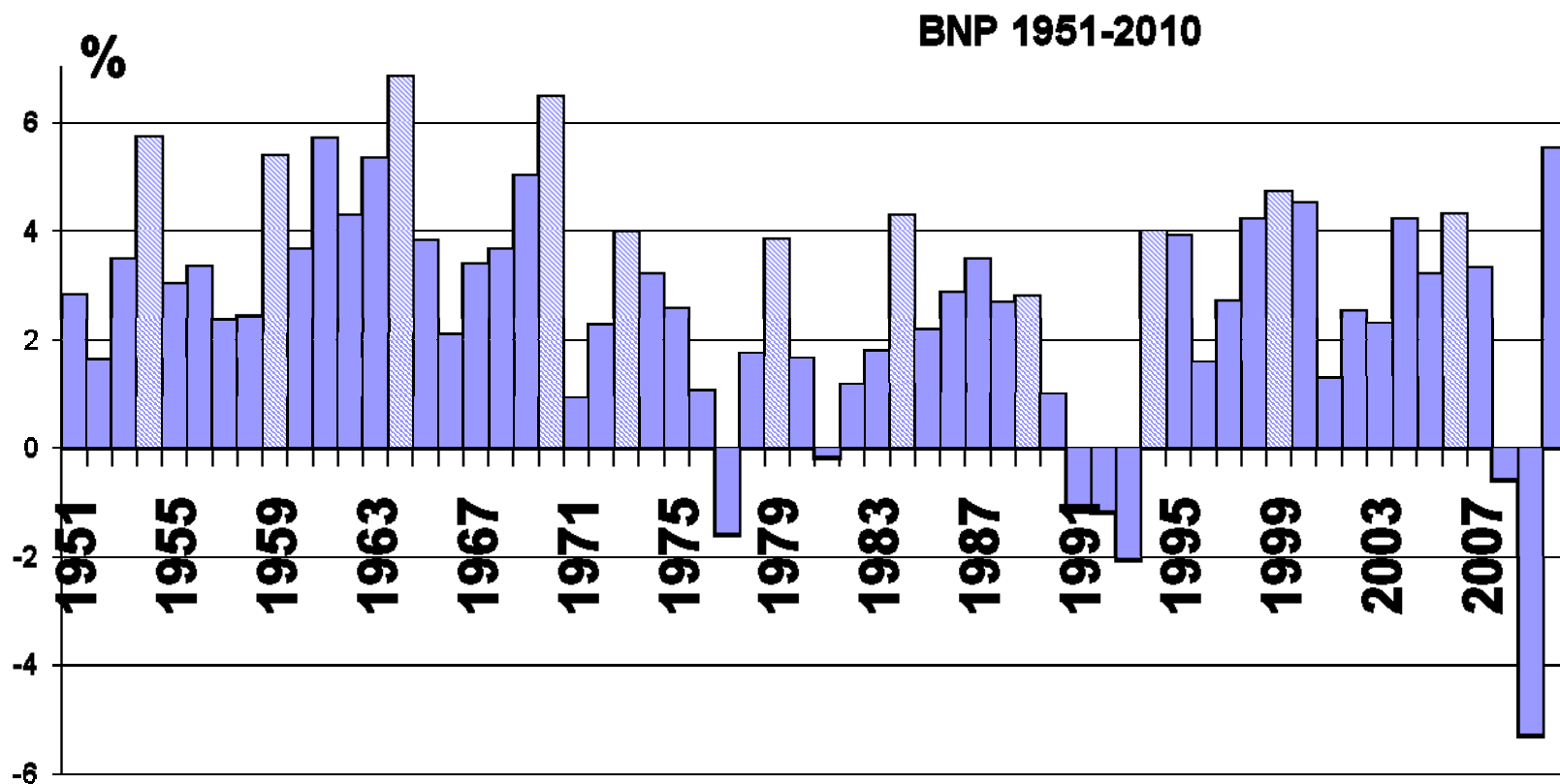
# *Handbooks, regulations to follow*

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- System of National Accounts – SNA 93
- European System of Accounts – ESA 95
- Revisions: SNA2008 och ESA2010
- Guidelines on quarterly Financial Accounts, MUFA
- Various manuals and handbooks
- Revision from Eurostat&European Court of Auditors

# GDP 1951-2010

Statistiska centralbyrån Statistics Sweden



# *Identities - Three ways to measure GDP*

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$$Y = C + G + I + X - M$$

or "the economic cycle"

- Principle of
- everything produced
- is also used
- and the production process creates income and profits needed in order to run the process

# The three approaches

## Production

Sum of value added  
(basic prices)  
+ Taxes on products  
- Subsidies on products

## Expenditure

+ Consumpt expend  
+ Gr Fix Cap Form  
+ ch in invent  
+ Exports  
- Imports

## Income

+ Compensation of employees  
+ Taxes on production & imports  
- Subsidies  
+ Operating surplus/Mixed income

## GDP at market price

+ Primary income to/from RoW; wages, cap.income, EU-taxes, -subsidies.

## GNI at market price

+ Current transfers to/from abroad

## Disposable national income

- Consumption expenditure

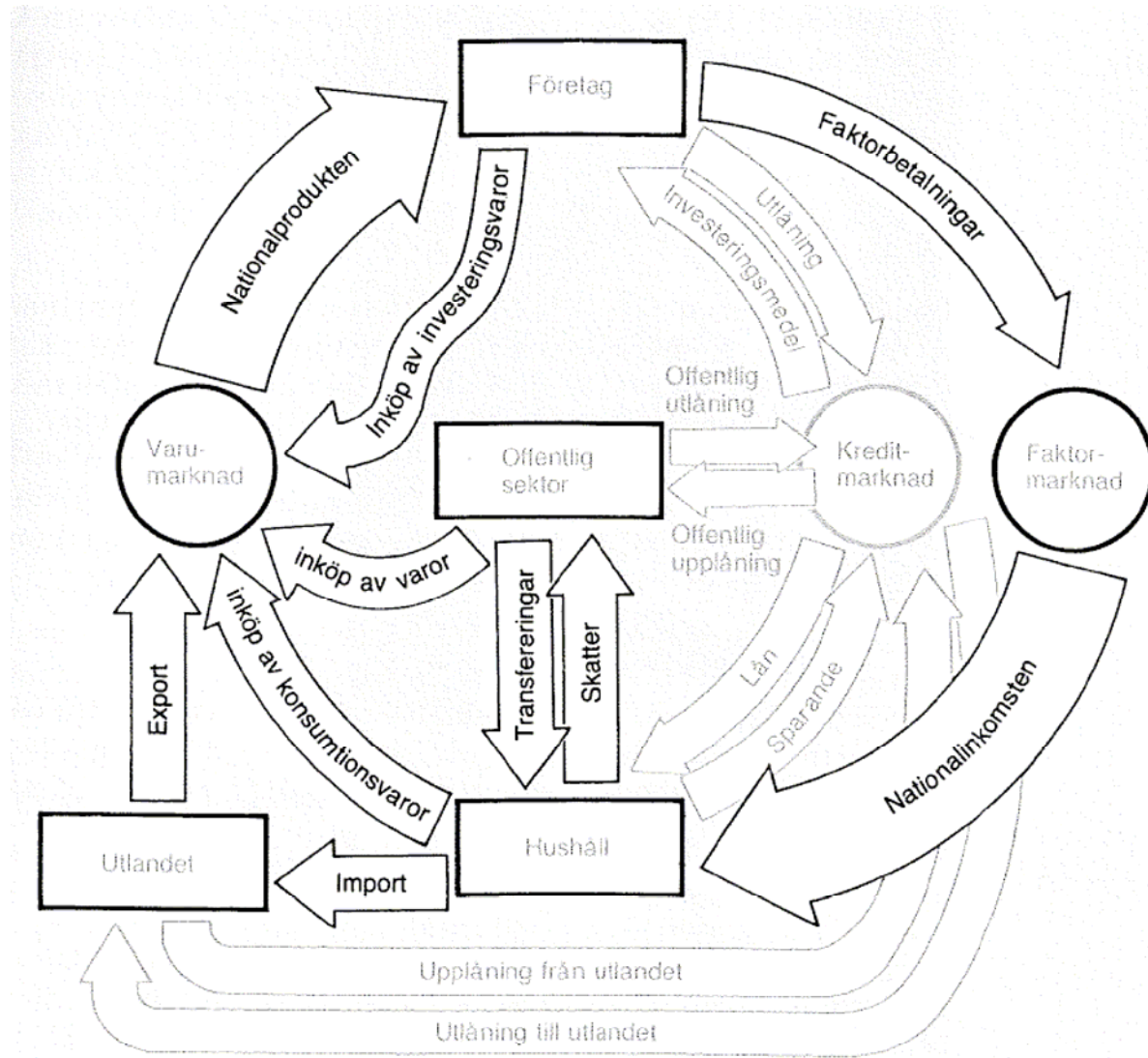
## Savings

+ Capital transfers to/from RoW

- Gross Fixed Capital formation

## Financial savings

# The integrated economic cycle





# *GDP expenditure side – main aggregates 2009*

billion SEK, current prices    % of GDP

+Household final consumption exp	1 516	48.8
+Government final consumption exp	864	27.8
+Gross fixed capital formation	555	17.9
+Changes in stocks	-40	-1.3
+Exports	1 507	48.5
-Imports	1 294	-41.6
=GDP market price	3 108	

# *GDP deflator and consumer price index*

- Deflate to get volumes
- $\text{GDP deflator} = \frac{\text{GDP-value in current price}}{\text{constant price estimate}}$
- NA uses a considerable amount of price indices
- Why is there a difference?
- NA takes the activities of the whole economy into account, not only households

# *GDP deflator and consumer price index*

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		<b>2009</b>	<b>2008</b>
GDP current prices		3 108 002	3 213 659
GDP constant prices		3 048 359	3 113 239
GDPdefl		1,0196	1,0323
CPI		0,9968	1,0348
HFCEdefl		1,0183	1,0284
HFCEcurrent prices		1 515 947	1 500 476
HFCEconstant prices		1 488 650	1 459 053

## *Contribution to GDP-growth*

Aggregate	Traditional compilation	Adjusted for imports
Household final cons.exp	1,1	0,5
Gov cons expenditure	0,5	0,4
Gr. fixed capital format.	1,6	0,8
Changes in stocks	0,2	0,2
Exports, net	0,8	2,3
<b>GDP*</b>	<b>4,2</b>	<b>4,2</b>

## *GDP to GNI, gross national income*

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- GDP is the production within the territory concept, domestic.
- GNI (GNP) is the income of all economic agents residing within the territory, like households, firms and government institutions.
- Add income by resident units from abroad (Swedes working in Norway)
- Deduct income created by production in Sweden but transferred to units living abroad (Danes working in Sweden)
- Small difference for most countries, but Ireland and Luxembourg...as also interest payments are included

## *GDP to GNI, examples, 2008*

	SE	LUX	Ireland
• GDP	3 214	39 348	181 816
• +Primary income from RoW	479	123 939	84 838
• -Primary income to RoW	371	133 570	110 340
• =GNI	3 321	29 717	155 911
• Difference, GDP & GNI, %	-3.3	-24.5	-14.2

# *From GDP to GNI, Sweden, billion SEK*

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	1993	2008
• GDP market price	1573	3214
• Wages to/fr RoW,net	-1	-1
• Taxes to EU	0	-7
• Subsidies fr EU	0	11
• Capital income, net	-61	106
• Net of primary income	-62	109
• GNI	1511	3321

## • *Sweden's EU-fee*

	2008 Mnkr	%
Customs fee	4958	17
Agriculture & sugar fees	345	1
VAT-fee	1430	5
GNI-fee	21960	75
UK reduction	437	2
Total EU-fee	29130	



# Maastricht treaty

**Special interest in Government finances:**

**Net lending/borrowing not lower than – 3 % of GDP**

**Government debt – not more than 60 % of GDP**

	Sweden	Germany	Ireland	Greece	Spain	Luxemb	UK
<b>Net borrowing (-)/ net lending (+)</b>							
<b>2009</b>	-0.5	-3.3	-14.3	-13.6	-11.2	-0.7	-11.5
<b>2006</b>	2.5	-1.6	3.0	-3.6	2.0	1.4	-2.7
<b>General government consolidated gross debt</b>							
<b>2009</b>	42.3	73.2	64.0	115.1	53.2	14.5	68.1
<b>2006</b>	45.7	67.6	24.9	97.8	39.6	6.5	43.5



# Public sector government debt



time geo	1996	2000	2001	2002	2003	2004	2005	2006	2007
<b>EU (27 countries)</b>	:	61.9	61.0	60.3	61.8	62.2	62.7	61.3	58.7
<b>Belgium</b>	127.0	107.8	106.5	103.5	98.7	94.3	92.1	87.8	83.9
<b>Denmark</b>	69.2	51.5	48.7	48.3	45.8	43.8	36.4	30.5	26.2
<b>Germany</b>	58.4	59.7	58.8	60.3	63.8	65.6	67.8	67.6	65.1
<b>Ireland</b>	73.5	37.8	35.5	32.2	31.1	29.4	27.3	24.7	24.8
<b>Greece</b>	111.3	103.2	103.6	100.6	97.9	98.6	98.8	95.9	94.8
<b>Spain</b>	67.4	59.3	55.5	52.5	48.7	46.2	43.0	39.6	36.2
<b>France</b>	58.0	57.3	56.9	58.8	62.9	64.9	66.4	63.6	63.9
<b>Italy</b>	120.9	109.2	108.8	105.7	104.4	103.8	105.9	106.9	104.1
<b>Luxembourg</b>	7.4	6.2	6.3	6.3	6.1	6.3	6.1	6.6	7.0
<b>Netherlands</b>	74.1	53.8	50.7	50.5	52.0	52.4	51.8	47.4	45.7
<b>Austria</b>	68.3	66.5	67.1	66.5	65.5	64.8	63.7	62.0	59.5
<b>Poland</b>	43.4	36.8	37.6	42.2	47.1	45.7	47.1	47.7	44.9
<b>Portugal</b>	59.9	50.5	52.9	55.6	56.9	58.3	63.6	64.7	63.6
<b>Finland</b>	56.9	43.8	42.3	41.3	44.3	44.1	41.3	39.2	35.1
<b>Sweden</b>	73.0	53.6	54.4	52.6	52.3	51.2	50.9	45.9	40.4
<b>United Kingdom</b>	:	41.0	37.7	37.5	38.7	40.6	42.3	43.4	44.2
<b>Iceland</b>	56.6	41.9	47.4	43.6	41.4	36.8	:	:	:
<b>Norway</b>	:	:	29.2	36.1	44.3	45.6	43.8	48.9	:

# *Household savings*

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- Disposable income minus
- Household expenditure
- = Savings
- Investments in dwellings
- Financial instruments
- Cash

## *National accounts, main users:*

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- Swedish Economic Research Institute, KI
- Ministry of Finance
- The Central Bank, other banks
- Large companies
- Institutions of EU, ECB
- International organisations, UN, IMF, OECD

# *Production cycle*

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- Quarterly accounts: (30) 60 days after reference period
- Annual accounts, final: ~23 months after reference period
- Annual accounts, preliminary: ~11 months after reference period
- Regional accounts: prel after 18 months, final after 23
- ESSPROS: 17 months after reference period
- Input/Output tables: Every five years, ~26 months after reference year

# *Dissemination and user contacts*

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- Publications
  - SM annual
  - BNPquarterly
- Press releases
- Press conferences
- SSD databases
- Webb sites
- EU transmissions
- Telefon jour service
- [nrinfo@scb.se](mailto:nrinfo@scb.se)
- User seminars and response to articles