

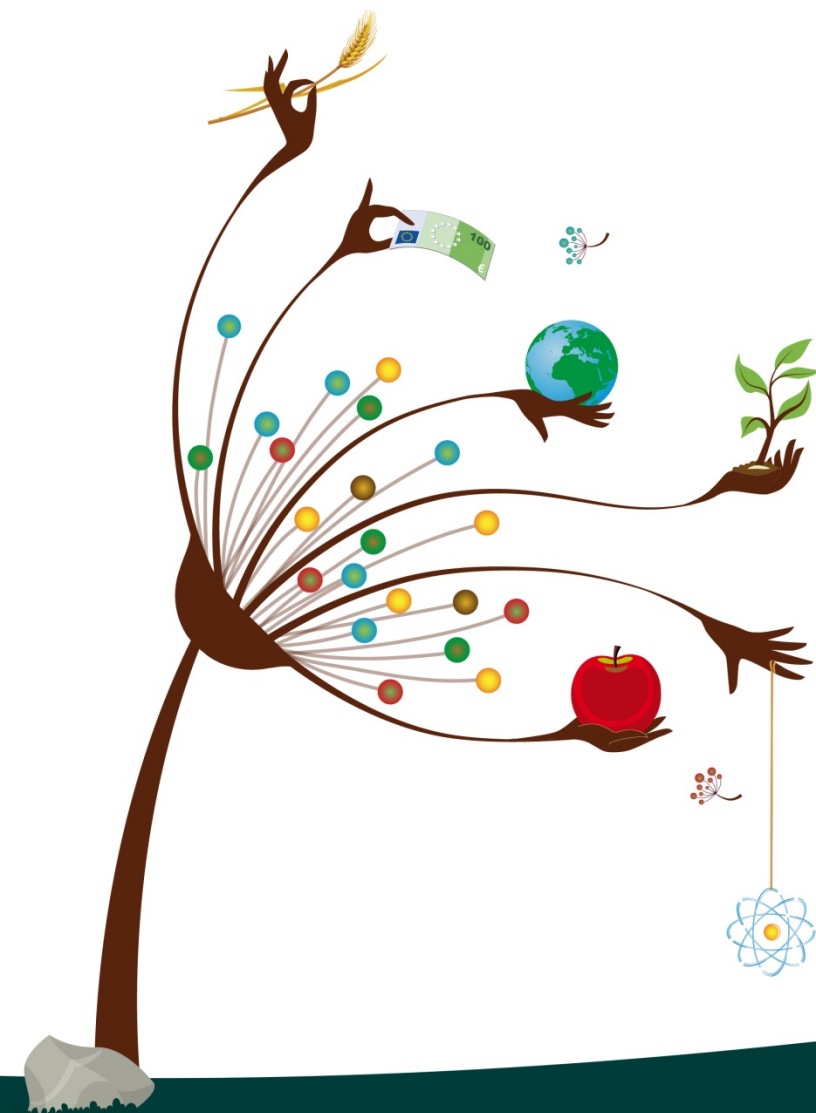
The European Commission's science and knowledge service

Joint Research Centre

Capital indicators for the EU28 Member States (1995-2014)

Data and methodology of calculations

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Objectives: Full time series 1995-2014

NFCS

- CUP
- VOL

GFCF

- CUP
- VOL

CFC

- CUP
- VOL

ASL

DR

Breakdowns

	NACE2, A*10 Industries
A	Agriculture, forestry, fishing
B	Mining and quarrying;
C	manufacturing;
D	electricity, gas, steam
E	water supply; sewerage,
F	Construction
G	Trade; repair of vehicles
H	transportation, storage;
I	accommodation and food
J	Information, communication
K	Financial and insurance
L	Real estate activities
M	Professional, scientific, technical
N	administrative, support
O	Public administration
P	Education,
Q	Human health and social work
R	Arts, entertainment,
S	other services,
T	Households,
U	Extraterritorial

	AN_F6 assets
N111	Dwellings
N112	Other buildings and structures
N1131	Transport equipment
N1132	ICT equipment
N110=	Other machinery and equipment and weapons systems
N1139	
+N114	
N115	Cultivated biological resources
N117	Intellectual property products

Official statistics

- Consistency with official data
- Official data sources
- Assumptions?

Data availability

		Asset	Industry	Asset x Industry
NFCS	cup	23	23	23
	pyp	21	21	21
GFCF	cup	26	26	26
	vol	27	0	0
CFC	cup	0	27	0
	vol	0	22	0

Checks

1

• $\text{GFCF cup} = \text{CGFC vol in } t_0$

2

• $\text{sign}(\text{GFCF cup}) = \text{sign}(\text{GFCF vol})$

3

• $\text{GFCF cup} = 0 \rightarrow \text{GFCF vol} = 0$

4

• $\text{NFCS cup} = 0 (t_0 - t^*) \rightarrow \text{GFCF vol} (t_0 - t^*) = 0$

5

• $\text{NFCS} \geq 0$

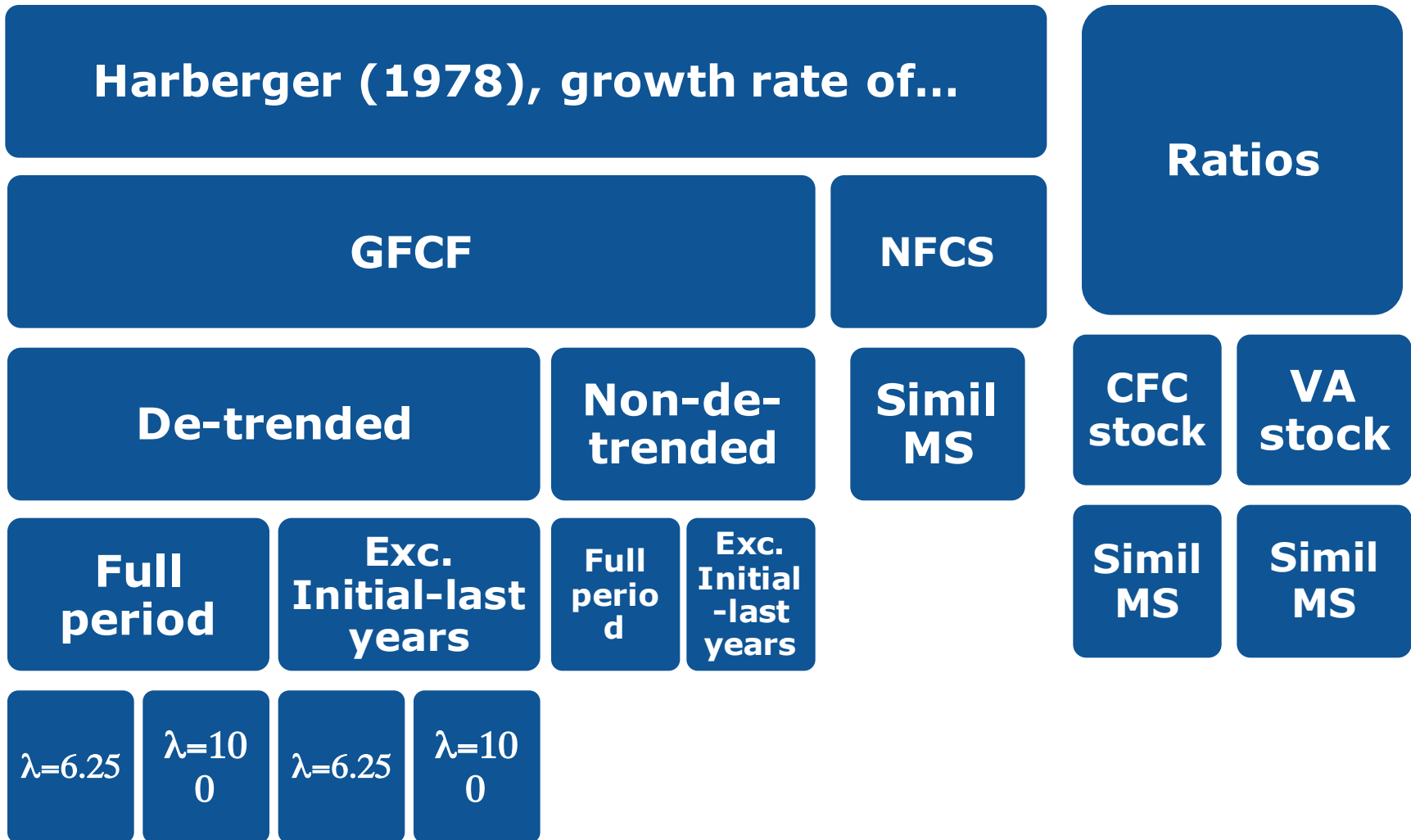
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• $\text{GFCF vol} (t_0 - t^*) \rightarrow \text{NFCS vol} (t_0 - t^*) = 0$

Estimation strategies NFCS vol

Data Availability	Strategy
NFCS cup NFCS pyp	Chain-linking
NFCS cup GFCF cup GFCF pyp/vol	Deflate NFCS with implicit deflators of GFCF
GFCF vol	PIM geometric depreciation rate

Approaches for Initial Capital Stock PIM



Identification of similar countries

Invest

Development
degree

Physical

Data
availab

GFCF

GDP
growth

GPD
per
capita

Geograp

Testing the approaches for Initial NFCS

Estimation

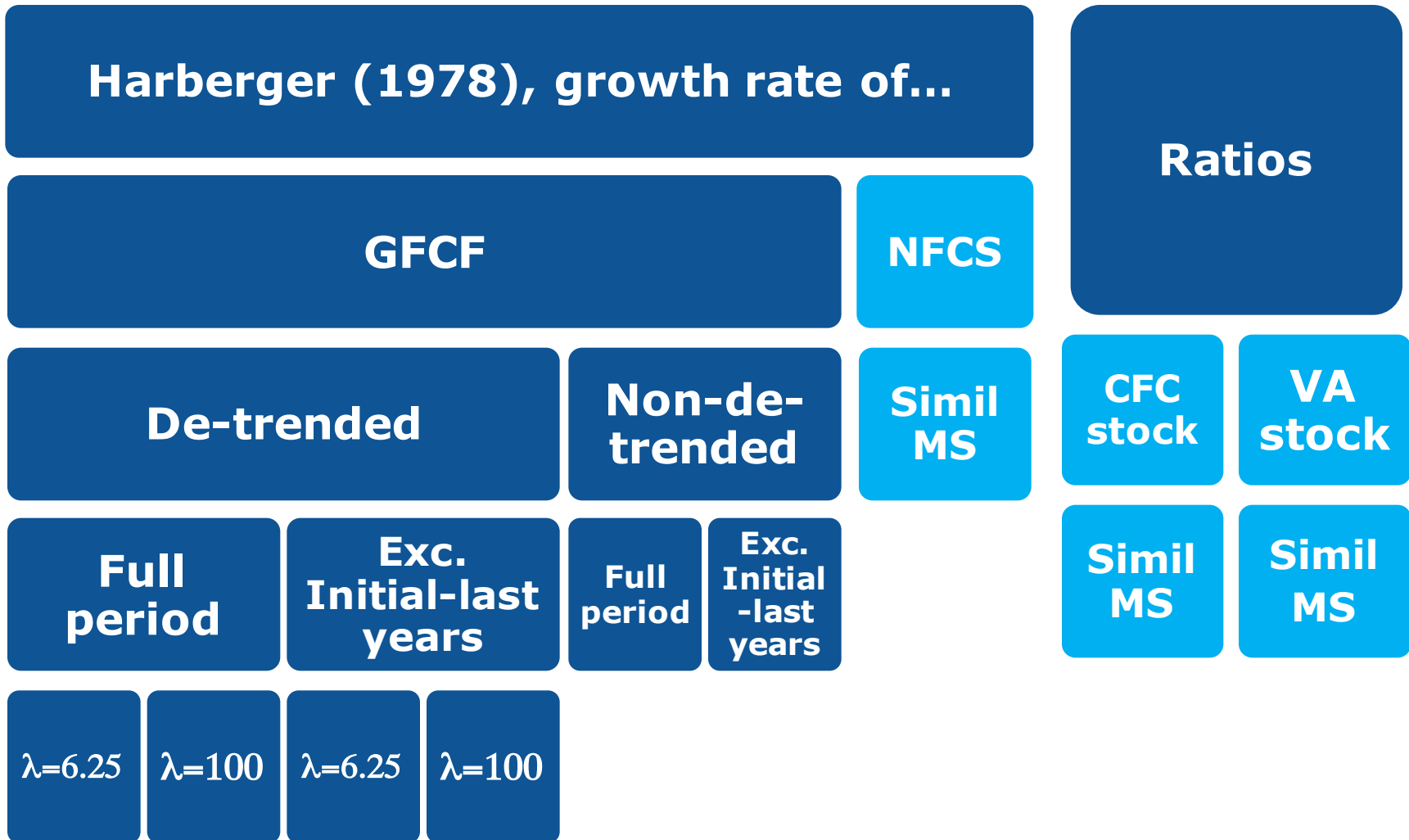
- For countries for which data **IS** available
- With all alternative methods
- With 2 similar countries

Compare results

- WAPE

Choose best

Approach Initial Capital Stock PIM



Depreciation rates

BEA

- Weapons = Machinery
- Intellectual property = software

OECD-ESTAT survey

- Dwellings (AT, EE, LT, SE)
- Other buildings (AT, SE)

Average Implicit

- Cultivated biological assets
- PIM reverse

Summary

Official statistics

- Consistency
- Official sources
- Assumptions

NFCS vol

- Chain-linking
- Implicit deflators
- PIM geometric depreciation rates

Initial stock

- CFC/K
- ICVAR
- Similar country

Deprec. rates

- BEA
- OECD/ESTAT survey (construction)
- Implicit PIM reverse (cultivated)