

Coherence and consistency - fundamental elements of FRIBS

A personal viewpoint

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Introduction

A few remarks concerning terminology

Comparability

Comparability is the extent to which differences between statistics from different geographical areas, non-geographical domains, or over time, can be attributed to differences between the true values of the statistics.

OECD Glossary of statistical terms

Coherence

Coherence refers to the adequacy of the data to be reliably combined in different ways and for various uses.

Regulation (EC) No 223/2009

Introduction

A few remarks concerning terminology

Horizontal consistency

Comparability between various statistical domains with respect to

- Statistical units
- Based on the same version of a Statistical business register
- Target population and frames
- Classifications
- Definitions
- Reference period/time

Introduction

A few remarks concerning terminology

Vertical consistency

Comparability between country results for one statistical project seen in an isolated way is a necessary condition for aggregation.

Comparability between the sum of Member States data and the European aggregate.

Introduction

Background of inconsistencies

“By accident”

„Stove pipe” principle

Lack of awareness

Lack of a “blueprint”

Differences in the underlying objectives

Different analytical orientation

Different priorities

Cost considerations

Need to reduce the response burden

Wish to grant flexibility

Introduction

The two dimensions of coherence/consistency

To serve users' needs

Coherence is a necessary condition that information from different statistical sources can be combined in an analysis in a meaningful way.

Production side of statistics

When two statistical projects are based on the same statistical units, the same reference period, the same coverage and have some of the variables in common which are defined in an identical way, the information collected for the one project might also be used for the second project. In this respect consistency will lead to a reduction of costs and help to reduce the response burden.

Coherence and consistency in FRIBS

Regulation (EC) No 223/2009 on European Statistics

Article 12 Statistical quality

(f) 'comparability', which refers to the measurement of the impact of differences in applied statistical concepts, measurement tools and procedures where statistics are compared between geographical areas, sectoral domains or over time;

(g) 'coherence', which refers to the adequacy of the data to be reliably combined in different ways and for various uses.

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Coherence and consistency in FRIBS

Code of Practice – Principle 14

European Statistics **are** consistent internally, over time and comparable between regions and countries; it is possible to combine and make joint use of related data from different sources.

Indicators

14.1: Statistics **are** internally coherent and consistent (i.e. arithmetic and accounting identities observed).

14.3: Statistics **are** compiled on the basis of common standards with respect to scope, definitions, units and classifications in the different surveys and sources.

Coherence and consistency in FRIBS

The vision of an integrated system

A system of business statistics in which the various blocks of information can be combined in a meaningful way.

Full consistency has to be guaranteed with respect to

- Statistical units

- Link to the central statistical business registers

- Reference period

- Core definitions

- Coverage (at least for big subsets)

- Breakdown (at least for detailed common denominators)

- Data requirements*

Coherence and consistency in FRIBS

The vision – some details of possible solutions

Enterprise (in the new definition) as the central, but not only statistical unit.

Strategic role of the Statistical business registers.

All related projects based on the same version of the Statistical business registers.

Harmonised coverage - at least for big subsets of activities.

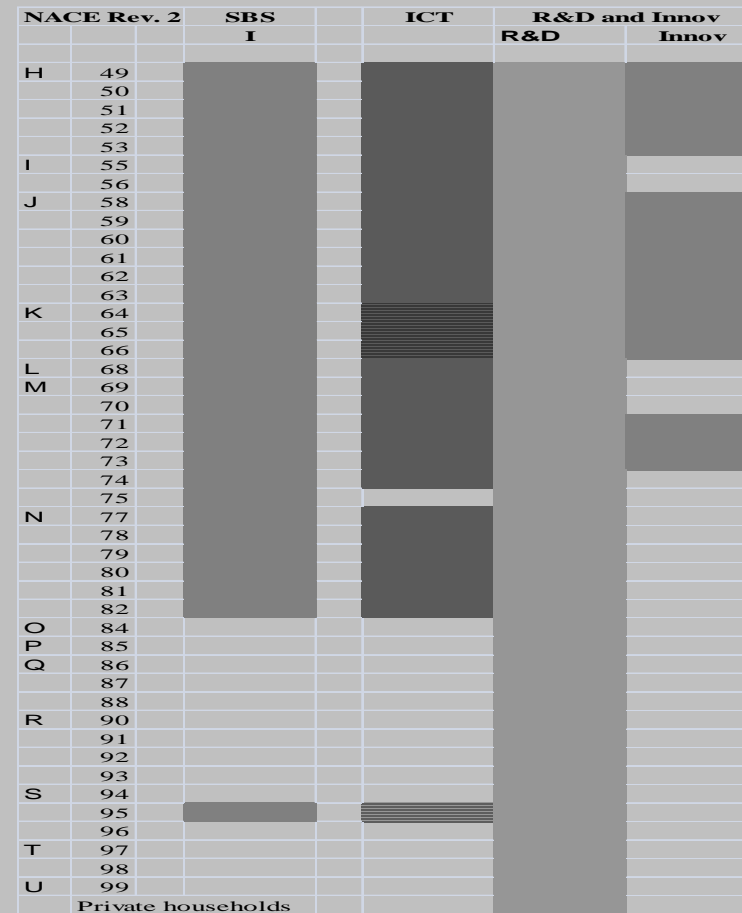
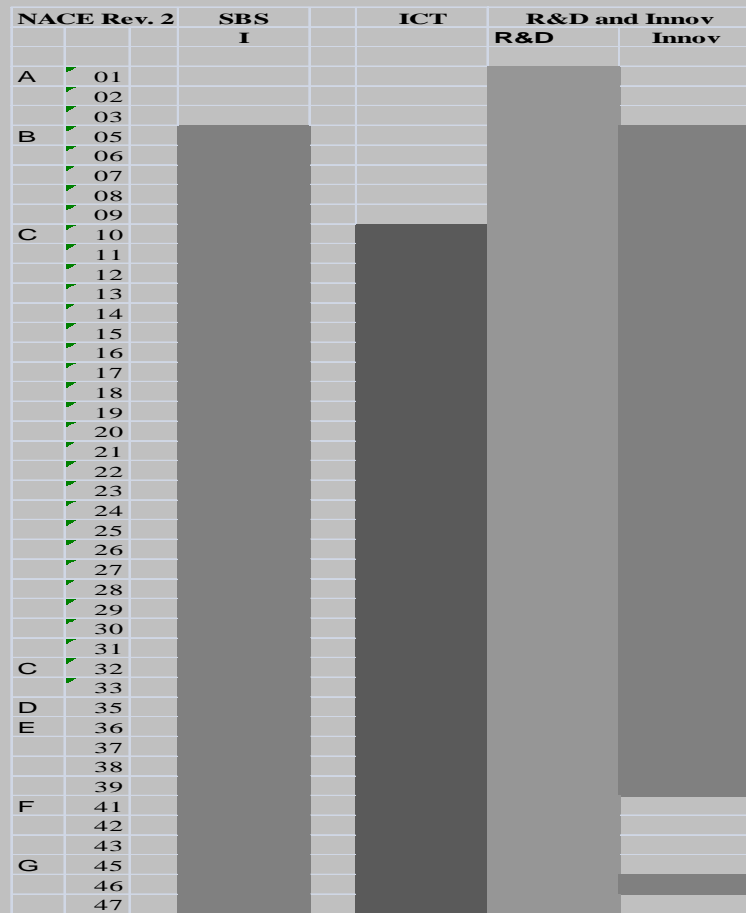
Harmonisation of the breakdown by activities and by size classes.

NACE Rev. 2 two digit or at least ESA A*38

Harmonisation of definitions of variables.

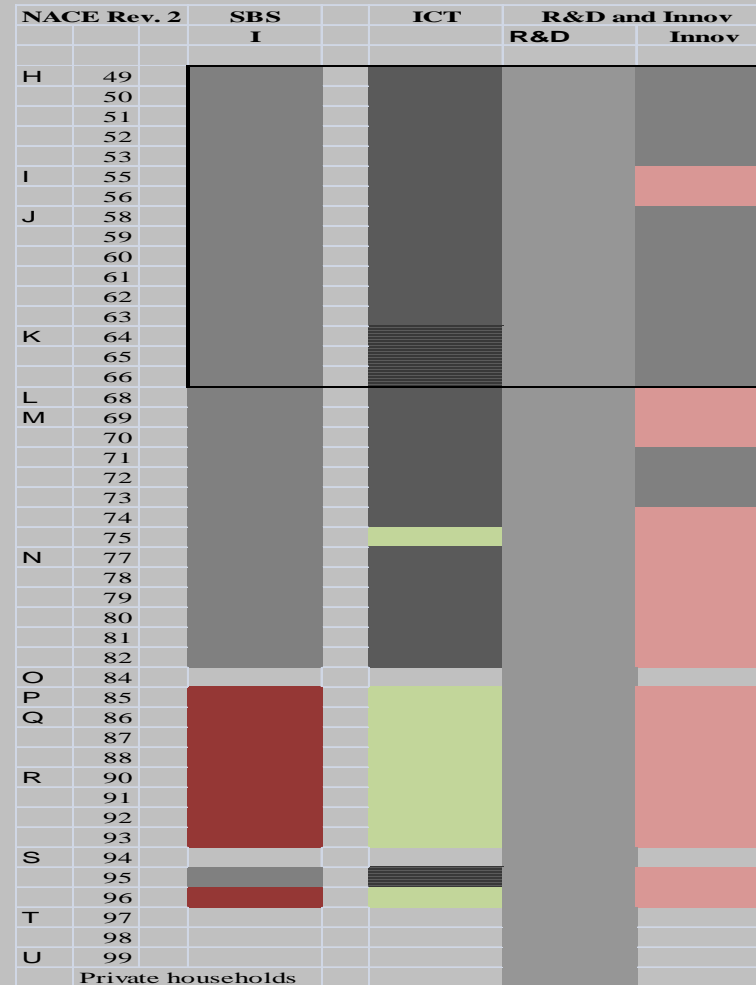
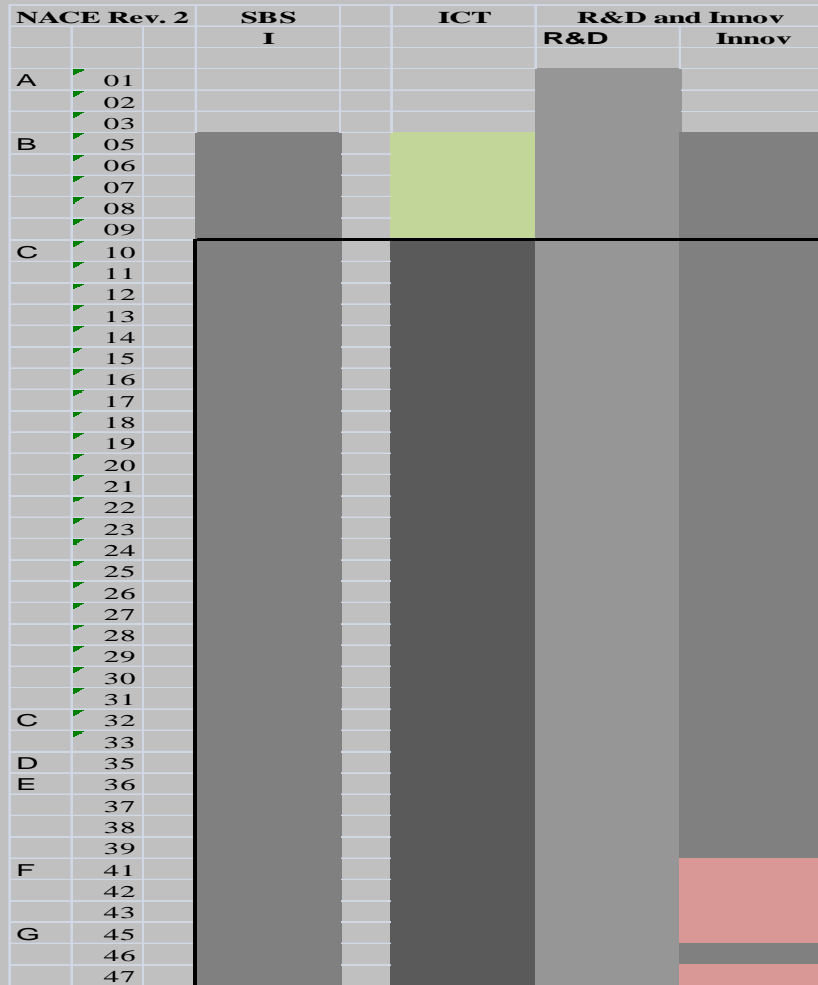
Coherence and consistency in FRIBS

Example: Present scope of annual enterprise statistics



Coherence and consistency in FRIBS

Example: Proposal for the scope of annual enterprise statistics



Coherence and consistency in FRIBS

Example: Present breakdown of annual enterprise statistics by NACE Rev. 2

NACE Rev. 2		SBS	ICT	Research and Development	
		Module I	Nat agg	R&D	Innovation
A	01				
	02				
	03				
B	05	4 digit			
	06	4 digit			
	07	4 digit			
	08	4 digit			
	09	4 digit			
C	10	4 digit			
	11	4 digit			
	12	4 digit			
	13	4 digit			
	14	4 digit			
	15	4 digit			
	16	4 digit			
	17	4 digit			
	18	4 digit			
	19	4 digit			
	20	4 digit			
	21	4 digit			
	22	4 digit			
	23	4 digit			
	24	4 digit			
	25.1	4 digit			
	25.2	4 digit			
	25.3	4 digit			
	25.4	4 digit			
	25.5	4 digit			
	25.6	4 digit			
	25.7	4 digit			
	25.9	4 digit			

NACE Rev. 2		SBS	ICT	Research and Development	
		Module I	Nat agg	R&D	Innovation
C	26.1	4 digit			
	26.2	4 digit			
	26.3	4 digit			
	26.4	4 digit			
	26.5	4 digit			
	26.6	4 digit			
	26.7	4 digit			
	26.8	4 digit			
	27	4 digit			
	28	4 digit			
	29	4 digit			
	30.1	4 digit			
	30.2	4 digit			
	30.3	4 digit			
	30.4	4 digit			
	30.9	4 digit			
	31	4 digit			
	32.1	4 digit			
	32.2	4 digit			
	32.3	4 digit			
	32.4	4 digit			
	32.5	4 digit			
	32.9	4 digit			
	33	4 digit			
D	35	4 digit			
E	36	4 digit			
	37	4 digit			
	38	4 digit			
	39	4 digit			
F	41	4 digit			
	42	4 digit			
	43	4 digit			

Coherence and consistency in FRIBS

Example: Present breakdown of annual enterprise statistics by NACE Rev. 2

NACE Rev. 2		SBS Module I	ICT Nat agg	Research and Development R&D	Development Innovation
G	45	4 digit			
	46	4 digit			
	47	4 digit			Not covered
H	49	4 digit			
	50	4 digit			
	51	4 digit			
	52	4 digit			
	53	4 digit			
I	55	4 digit			Not covered
	56	4 digit	Not covered		Not covered
J	58	4 digit			
	59	4 digit			
	60	4 digit			
	61	4 digit			
	62	4 digit			
	63	4 digit			
K	64	4 digit	*)		
	65	4 digit			
	66	4 digit			
L	68	4 digit			Not covered
M	69	4 digit			Not covered
	70	4 digit			Not covered
	71	4 digit			
	72	4 digit			
	73	4 digit			
	74	4 digit			
	75	4 digit	Not covered		
N	77	4 digit			
	78	4 digit			
	79	4 digit			
	80	4 digit			
	81	4 digit			
	82	4 digit			
O	84				
P	85				
Q	86				
	87				
	88				
R	90				
	91				
	92				
	93				
S	94				
	95				
	96				
T	97				
	98				
U	99				

Coherence and consistency in FRIBS

Example: Proposal for a minimum breakdown of annual enterprise statistics by NACE Rev. 2

NACE Rev. 2		SBS	ICT	Research and Development		ESA
		Module I	Nat agg	R&D	Innovation	A*38
A	01					1
	02					
	03					
B	05	4 digit	Not covered			2
	06	4 digit				
	07	4 digit				
	08	4 digit				
	09	4 digit				
C	10	4 digit				3
	11	4 digit				
	12	4 digit				
	13	4 digit				4
	14	4 digit				
	15	4 digit				
	16	4 digit				5
	17	4 digit				
	18	4 digit				
	19	4 digit				6
	20	4 digit				
	21	4 digit				8
	22	4 digit				
	23	4 digit				9
	24	4 digit				
	25	4 digit				10
C	26	4 digit				
	27	4 digit				11
	28	4 digit				
	29	4 digit				12
	30	4 digit				
	31	4 digit				13
	32	4 digit				
	33	4 digit				14
	34	4 digit				
D	35	4 digit				15
E	36	4 digit				
	37	4 digit				16
	38	4 digit				
	39	4 digit				17
F	41	4 digit				
	42	4 digit				18
	43	4 digit				

NACE Rev. 2		SBS	ICT	Research and Development		ESA
		Module I	Nat agg	R&D	Innovation	A*38
G	45	4 digit			Not covered	19
	46	4 digit				
	47	4 digit				
H	49	4 digit				20
	50	4 digit				
	51	4 digit				
	52	4 digit				
	53	4 digit				
I	55	4 digit			Not covered	21
	56	4 digit				
J	58	4 digit			Not covered	22
	59	4 digit				
	60	4 digit				
	61	4 digit				23
	62	4 digit				
	63	4 digit				24
K	64	4 digit				
	65	4 digit				25
	66	4 digit				
L	68	4 digit			Not covered	26
M	69	4 digit			Not covered	
	70	4 digit			Not covered	27
	71	4 digit				
	72	4 digit				28
	73	4 digit				
	74	4 digit				29
	75	4 digit				
N	77	4 digit			Not covered	30
	78	4 digit				
	79	4 digit				31
	80	4 digit				
	81	4 digit				32
	82	4 digit				
O	84					33
P	85					
Q	86					34
	87					
R	88					35
	89					
S	90					36
	91					
	92					37
	93					
	94					38
	95					
	96					
T	97					39
	98					
U	99					

Coherence and consistency in FRIBS

The vision of an integrated system - some problem areas

Common **concepts** are a necessary but not a sufficient criterion.

Coherence and compatibility will only be given in the case of a certain harmonisation of processes.

Of particular importance:

- Identification of units

- Process of classifying units

- Maintenance of the statistical business registers

The price of consistency and coherence

Trade-offs

Consistency and coherence within the system of business statistics is one among a number of competing objectives.

The obvious trade-off between the 'best solution' for a statistical project seen in an isolated way and a 'coherent solution' must be taken seriously.

Need for changes in the production system - farewell to old traditions.

Discontinuity – comparability over time.

Less flexibility in particular as the fundamentals of business statistics are concerned.

Conclusions

The price of being not consistent

Production side

Waste of resources

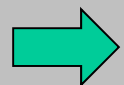
Higher response burden

Lack of flexibility

Users' perspective

Reduced comparability – wrong signals

Reduced coherence – biased results of analyses of all kind
– restrictions in complex modelling exercises



Misinformed political decisions

Conclusions

The price of being not consistent - ESA

The operational role of results of national accounts is extremely high.

Illusion that compatible national accounts can be compiled on the basis of incompatible business statistics.

No perfect dish can be prepared on the basis of sub standard ingredients. A very good chef can reduce the negative influence of suboptimal ingredients, he will never be able to eliminate it completely.

Conclusions

The price of being not consistent

No adequate answers can be given to complex phenomena such as globalisation.

„An integrated approach is needed to make better use of existing data and to tie it to new resources meant to fill the data gaps“.

„A holistic framework will help statisticians identify redundant data resources, appropriate standards for detail and accuracy and insure maximum use of existing data resources“ (Sturgeon).

Conclusions

A drop of bitterness

FRIBS is limited to business statistics in a rather narrow sense; it does not even cover all statistical projects addressing businesses as respondents.

Closely related projects

- Labour Costs Statistics
- Structure of Earnings Statistics
- Job Vacancy Statistics
- Labour Cost Index
- Vocational Training Statistics

Distantly related projects

- Transport Statistics, etc.

ESA – in particular with respect to the underlying statistical unit

Conclusions

The implementation of FRIBS would be a major step towards more consistency.

FRIBS offers a clear hierarchy of objectives - preference for **consistency**.

This metamorphose to an integrated system can be achieved by concentrating

- all the conceptual elements, currently laid down in the business statistics domain-related regulations and
- those currently present in specific domain-specific manuals or guidelines not necessarily legally binding, in a single document.

Thank you for your attention