

The statistical environment of INFORUM models – Major changes ahead

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1. Introduction

INFORUM modelling is dependent on the available statistical data. The nature of the data and the access to the data are limiting factors for all modelling activities.

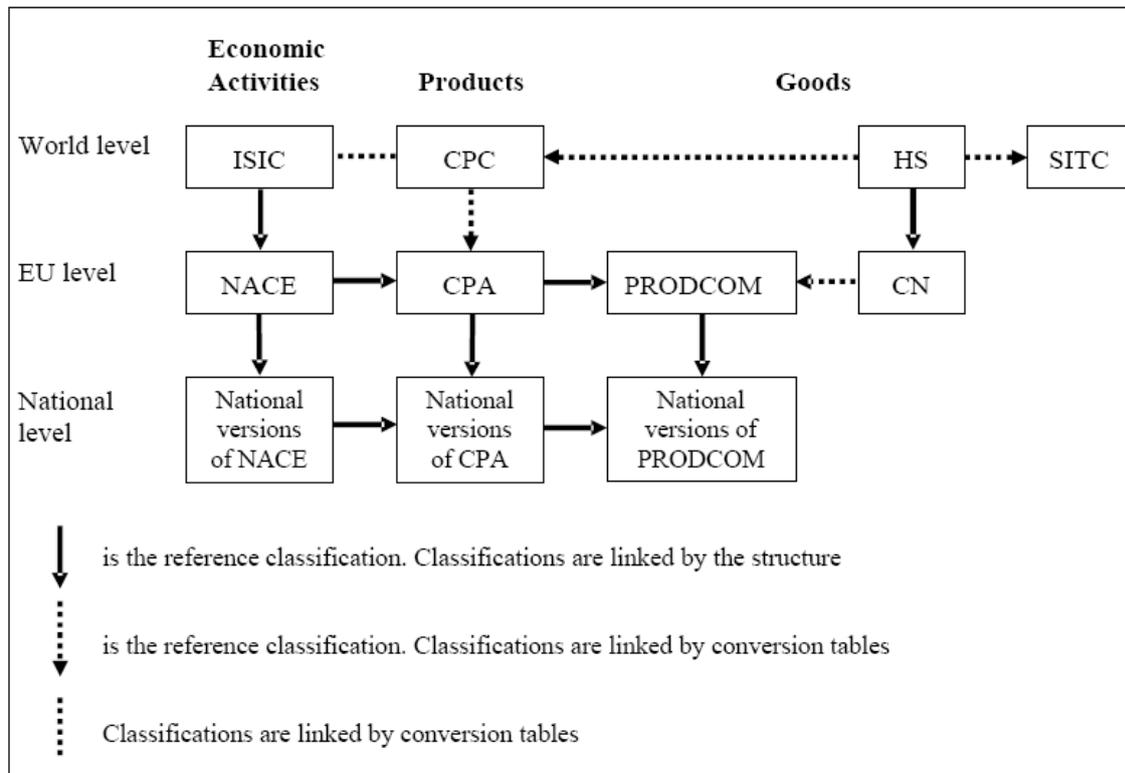
Two major changes in the statistical environment will happen in the near future: One is the revision of all classification systems such as ISIC, NACE and CPA. This change with major implications on all time series has already started, although national accounts data and input-output tables in the new classification system will only be available in a few years. The other major change is the revision of the system of national accounts itself. The final decisions on the SNA 2008 will be taken this and next year.

The aim of this paper is to provide some background information on the changes in the statistical environment ahead. Emphasis will be put on the European situation.

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2. The new classification systems

In the last few years the entire international family of classifications was revised; some parts are still in the stage of being revised.



ISIC United Nations' International Standard Industrial Classification of all Economic Activities.

CPC- United Nations' Central Product Classification.

HS Harmonized Commodity Description and Coding System, managed by the World Customs Organisation.

NACE European Classification of Activities.
The term is derived from the French title "Nomenclature générale des Activités économiques dans les Communautés Européennes" (Statistical classification of economic activities in the European Communities).

CPA European Classification of Products by Activity.

Prodcom European classification of goods used for statistics on industrial production.

CN Combined Nomenclature, a European classification of goods used for foreign trade statistics.

Source: Eurostat NACE Rev. 2, Introductory Guidelines

2.1 ISIC Rev. 4

The main objectives of the ISIC revision which led to ISIC Rev. 4 were to reflect new industries and to improve the comparability to major regional classifications. Another major criterion was to guarantee a certain degree of link to the previous version of ISIC. The formal editing of the complete publication of ISIC Rev. 4 is in its final stage.

Major changes - compared to ISIC Rev. 3.1 – are:

- Increase in top-level categories
- Increase in overall detail
- New concepts (information, professional services, support services)
- More emphasis on services

	ISIC Rev. 4	ISIC Rev. 3.1
Sections	21	17
Divisions	88	60
Groups	238	159
Classes	419	292

New sections:

E	Water supply; sewerage, waste management and remediation activities
J	Information and communication
L	Real estate activities
M	Professional, scientific and technical activities
N	Administrative and support service activities
Q	Human health and social work activities
R	Arts, entertainment and recreation

Section J is really new, comprising activities, which were previously classified under manufacturing, transportation, business services and personal services. Section J covers activities involving production and distribution of information and cultural products, provision of the means to transmit or distribute these products, as well as data or communications, information technology activities and the processing of data and other information service activities.

L, M and N are more or less the result of a disaggregation of Section K of ISIC Rev. 3.1, Q and R more or less the result of a disaggregation of Section O of ISIC Rev. 3.1.

Within manufacturing repair and installation of machinery and equipment, which was formerly classified under manufacturing of the corresponding type of equipment, is now identified separately in Division 33 (Repair and installation of machinery and equipment).

Manufacture of basic pharmaceutical products and pharmaceutical preparations is now a separate Division. Recycling is not longer classified under the heading manufacturing (Section C) but included in Section E.

Section K (Finance and insurance activities) now also covers activities of holding companies and of trusts, funds and similar financial entities.

A complete table of correspondence at lowest level will be available on the UNSD website (<http://unstats.un.org/unsd/cr/registry>).

ISIC and NAICS are still substantially different. NAICS, the North American Industry Classification System was developed on the basis of a production-oriented conceptual framework and classifies units, not activities. However, statistical data collected according to NAICS can be aggregated into the two-digit Divisions of ISIC Rev. 4/NACE Rev. 2, ensuring comparability of data.

The following table provides an overview of the structure of ISIC Rev. 4 on the two-digit level (Divisions).

2.2 NACE Rev. 2

NACE Rev.2 is the EU version of ISIC Rev. 4. The use of NACE is mandatory within the Statistical System of the EU. In addition to the EU Member States, Norway and Switzerland are committed to using a national version derived from NACE. Moreover, about ten other countries outside the EU, or candidate countries like Croatia and Turkey, refer to NACE for their classification of economic activities.

NACE Rev. 2 has already been established by Regulation (EC) No 1893/2006. A second Regulation (EC) No 973/2007 amends 10 EC Regulations on specific statistical domains implementing the statistical classification of economic activities NACE Rev. 2.

Short term business statistics for manufacturing already started to use NACE Rev. 2, starting with the reference year 2008. Short term business statistics for trade and services will follow starting with the reference year 2009. All short term indicators (with the new base year 2005 = 100) will be based on NACE Rev. 2 also starting 2009. National accounts data in a breakdown by NACE Rev. 2 categories will be available from 2011 onwards.

Four types of correspondences between NACE Rev. 1.1 and NACE Rev. 2 can be distinguished:

1. 1 to 1 correspondences: 195 classes in NACE Rev. 1.1 correspond exactly to one class in NACE Rev. 2 and vice-versa;
2. n to 1 correspondences: 86 cases, where two or more classes in NACE Rev 1.1 correspond to one class in NACE Rev. 2;
3. 1 to m correspondences: 18 cases, where one NACE Rev. 1.1 class is split into two or more classes in NACE Rev. 2;
4. n to m correspondences: 215 cases, where two or more classes in NACE Rev. 1.1 correspond to two or more classes in NACE Rev. 2.

The implementation of the revised classifications NACE and CPA in the EU with all its far reaching consequences is carried out in a special project called "Operation 2007".

The implementation of the revised NACE in EU statistics also implies a disruption of all time series based on NACE Rev. 1 or NACE Rev. 1.1. In order to achieve a certain harmonization of methods in the EU, a handbook on backcasting was produced, aiming at providing information to statisticians implementing NACE Rev. 2 in the European Statistical System. For each methodology, it presents the description, some examples and discusses possible advantages and disadvantages. The handbooks are available under <http://forum.europa.eu.int/irc/dsis/nacecpacon/info/data/en/index.htm>.

ISIC Rev.4 (draft)

- A - Agriculture, forestry and fishing
 - 01 - Crop and animal production, hunting and related service activities
 - 02 - Forestry and logging
 - 03 - Fishing and aquaculture
- B - Mining and quarrying
 - 05 - Mining of coal and lignite
 - 06 - Extraction of crude petroleum and natural gas
 - 07 - Mining of metal ores
 - 08 - Other mining and quarrying
 - 09 - Mining support service activities
- C - Manufacturing
 - 10 - Manufacture of food products
 - 11 - Manufacture of beverages
 - 12 - Manufacture of tobacco products
 - 13 - Manufacture of textiles
 - 14 - Manufacture of wearing apparel
 - 15 - Manufacture of leather and related products
 - 16 - Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
 - 17 - Manufacture of paper and paper products
 - 18 - Printing and reproduction of recorded media
 - 19 - Manufacture of coke and refined petroleum products
 - 20 - Manufacture of chemicals and chemical products
 - 21 - Manufacture of basic pharmaceutical products and pharmaceutical preparations
 - 22 - Manufacture of rubber and plastics products
 - 23 - Manufacture of other non-metallic mineral products
 - 24 - Manufacture of basic metals
 - 25 - Manufacture of fabricated metal products, except machinery and equipment
 - 26 - Manufacture of computer, electronic and optical products
 - 27 - Manufacture of electrical equipment
 - 28 - Manufacture of machinery and equipment n.e.c.
 - 29 - Manufacture of motor vehicles, trailers and semi-trailers
 - 30 - Manufacture of other transport equipment
 - 31 - Manufacture of furniture
 - 32 - Other manufacturing
 - 33 - Repair and installation of machinery and equipment
- D - Electricity, gas, steam and air conditioning supply
 - 35 - Electricity, gas, steam and air conditioning supply
- E - Water supply; sewerage, waste management and remediation activities
 - 36 - Water collection, treatment and supply
 - 37 - Sewerage
 - 38 - Waste collection, treatment and disposal activities; materials recovery
 - 39 - Remediation activities and other waste management services
- F - Construction
 - 41 - Construction of buildings
 - 42 - Civil engineering
 - 43 - Specialized construction activities
- G - Wholesale and retail trade; repair of motor vehicles and motorcycles
 - 45 - Wholesale and retail trade and repair of motor vehicles and motorcycles
 - 46 - Wholesale trade, except of motor vehicles and motorcycles
 - 47 - Retail trade, except of motor vehicles and motorcycles
- H - Transportation and storage
 - 49 - Land transport and transport via pipelines
 - 50 - Water transport
 - 51 - Air transport
 - 52 - Warehousing and support activities for transportation
 - 53 - Postal and courier activities

ISIC Rev.4 (draft) cont.

- I - Accommodation and food service activities
 - 55 - Accommodation
 - 56 - Food and beverage service activities
- J - Information and communication
 - 58 - Publishing activities
 - 59 - Motion picture, video and television programme production, sound recording and music publishing activities
 - 60 - Programming and broadcasting activities
 - 61 - Telecommunications
 - 62 - Computer programming, consultancy and related activities
 - 63 - Information service activities
- K - Financial and insurance activities
 - 64 - Financial service activities, except insurance and pension funding
 - 65 - Insurance, reinsurance and pension funding, except compulsory social security
 - 66 - Activities auxiliary to financial service and insurance activities
- L - Real estate activities
 - 68 - Real estate activities
- M - Professional, scientific and technical activities
 - 69 - Legal and accounting activities
 - 70 - Activities of head offices; management consultancy activities
 - 71 - Architectural and engineering activities; technical testing and analysis
 - 72 - Scientific research and development
 - 73 - Advertising and market research
 - 74 - Other professional, scientific and technical activities
 - 75 - Veterinary activities
- N - Administrative and support service activities
 - 77 - Rental and leasing activities
 - 78 - Employment activities
 - 79 - Travel agency, tour operator, reservation service and related activities
 - 80 - Security and investigation activities
 - 81 - Services to buildings and landscape activities
 - 82 - Office administrative, office support and other business support activities
- O - Public administration and defence; compulsory social security
 - 84 - Public administration and defence; compulsory social security
- P - Education
 - 85 - Education
- Q - Human health and social work activities
 - 86 - Human health activities
 - 87 - Residential care activities
 - 88 - Social work activities without accommodation
- R - Arts, entertainment and recreation
 - 90 - Creative, arts and entertainment activities
 - 91 - Libraries, archives, museums and other cultural activities
 - 92 - Gambling and betting activities
 - 93 - Sports activities and amusement and recreation activities
- S - Other service activities
 - 94 - Activities of membership organizations
 - 95 - Repair of computers and personal and household goods
 - 96 - Other personal service activities
- T - Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use
 - 97 - Activities of households as employers of domestic personnel
 - 98 - Undifferentiated goods- and services-producing activities of private households for own use
- U - Activities of extraterritorial organizations and bodies
 - 99 - Activities of extraterritorial organizations and bodies

NACE Rev. 2 - National accounts

Implementation of NACE Rev. 2 for national accounts is foreseen for September 2011. For national accounts purposes five different levels of aggregation are planned (as of May 2008):

Current transmission obligations have been translated as

A6 → A*10
 A17 → A*21
 A31 → A*38
 A60 → A*64

Level 1 A*3

Code	NACE Rev. 2 sections	Description
1	A	Agriculture, forestry and fishing
2	B, C, D, E and F	Mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply; water supply; sewerage, waste management and remediation activities construction
3	G, H, I, J, K, L, M, N, O, P, Q, R, S, T and U	Services

Level 2 A*10

Code	NACE Rev. 2 sections	Description
1	A	Agriculture, forestry and fishing
2	B, C, D and E	Mining and quarrying; manufacturing; electricity, gas, steam and air conditioning supply; water supply; sewerage, waste management and remediation activities
2a	C	<i>Of which: manufacturing</i>
3	F	Construction
4	G, H and I	Wholesale and retail trade; repair of motor vehicles and motorcycles; transportation and storage; accommodation and food service activities
5	J	Information and communication
6	K	Financial and insurance activities
7	L	Real estate activities
8	M and N	Professional, scientific and technical activities; administrative and support service activities
9	O, P, and Q	Public administration and defence; compulsory social security; education; human health and social work activities
10	R, S, T and U	Arts, entertainment, repair of household goods and other services

Level 3 A*21

Code	NACE Rev. 2 section	NACE Rev. 2 division	Description
A	A	1-3	Agriculture, forestry and fishing
B	B	5-9	Mining and quarrying
C	C	10-33	Manufacturing
D	D	35	Electricity, gas, steam and air conditioning supply
E	E	36-39	Water supply; sewerage, waste management and remediation activities
F	F	41-43	Construction
G	G	45-47	Wholesale and retail trade; repair of motor vehicles and motorcycles
H	H	49-53	Transportation and storage
I	I	55-56	Accommodation and food service activities
J	J	58-63	Information and communication
K	K	64-66	Financial and insurance activities
L	L	68	Real estate activities
M	M	69-75	Professional, scientific and technical activities
N	N	77-82	Administrative and support service activities
O	O	84	Public administration and defence; compulsory social security
P	P	85	Education
Q	Q	86-88	Human health and social work activities
R	R	90-93	Arts, entertainment and recreation
S	S	94-96	Other service activities
T	T	97-98	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use
U	U	99	Activities of extraterritorial organizations and bodies

Level 4 A*38

Code	NACE Rev. 2 divisions	Description
AA	01-03	Agriculture, forestry and fishing
BB	05-09	Mining and quarrying
CA	10-12	Manufacture of food products, beverages and tobacco products
CB	13-15	Manufacture of textiles, wearing apparel and leather products
CC	16-18	Manufacture of wood and paper products, and printing
CD	19	Manufacture of coke and refined petroleum products
CE	20	Manufacture of chemicals and chemical products
CF	21	Manufacture of basic pharmaceutical products and pharmaceutical preparations
CG	22-23	Manufacture of rubber and plastics products, and other non-metallic mineral products
CH	24-25	Manufacture of basic metals and fabricated metal products, except machinery and equipment
CI	26	Manufacture of computer, electronic and optical products
CJ	27	Manufacture of electrical equipment
CK	28	Manufacture of machinery and equipment n.e.c.
CL	29-30	Manufacture of transport equipment
CM	31-33	Manufacture of furniture; other manufacturing; repair and installation of machinery and equipment
DD	35	Electricity, gas, steam and air-conditioning supply
EE	36-39	Water supply; sewerage, waste management and remediation activities
FF	41-43	Construction
GG	45-47	Wholesale and retail trade, repair of motor vehicles and motorcycles
HH	49-53	Transportation and storage
II	55-56	Accommodation and food service activities
JA	58-60	Publishing, audiovisual and broadcasting activities
JB	61	Telecommunications
JC	62-63	Computer programming, consultancy and related activities; information service activities
KK	64-66	Financial and insurance activities
LL	68	Real estate activities
LLa		<i>Of which: imputed rents of owner-occupied dwellings</i>
MA	69-71	Legal and accounting activities; activities of head offices; management consultancy activities; architecture and engineering activities; technical testing and analysis
MB	72	Scientific research and development
MC	73-75	Advertising and market research; other professional, scientific and technical activities; veterinary activities
NN	77-82	Administrative and support service activities
OO	84	Public administration and defence; compulsory social security
PP	85	Education
QA	86	Human health activities
QB	87-88	Social work activities
RR	90-93	Arts, entertainment and recreation
SS	94-96	Other service activities
TT	97-98	Activities of households as employers of domestic personnel and undifferentiated goods and services production of households for own use
UU	99	Activities of extra-territorial organizations and bodies

Level 5 A*64

Code	NACE Rev. 2 divisions	Description
1	01	Crop and animal production, hunting and related service activities
2	02	Forestry and logging
3	03	Fishing and aquaculture
4	05-09	Mining and quarrying
5	10-12	Manufacture of food products, beverages and tobacco products
6	13-15	Manufacture of textiles, wearing apparel and leather products
7	16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
8	17	Manufacture of paper and paper products
9	18	Printing and reproduction of recorded media
10	19	Manufacture of coke and refined petroleum products
11	20	Manufacture of chemicals and chemical products
12	21	Manufacture of basic pharmaceutical products and pharmaceutical preparations
13	22	Manufacture of rubber and plastics products
14	23	Manufacture of other non-metallic mineral products
15	24	Manufacture of basic metals
16	25	Manufacture of fabricated metal products, except machinery and equipment
17	26	Manufacture of computer, electronic and optical products
18	27	Manufacture of electrical equipment
19	28	Manufacture of machinery and equipment n.e.c.
20	29	Manufacture of motor vehicles, trailers and semi-trailers
21	30	Manufacture of other transport equipment
22	31-32	Manufacture of furniture; other manufacturing
23	33	Repair and installation of machinery and equipment
24	35	Electricity, gas, steam and air conditioning supply
25	36	Water collection, treatment and supply
26	37-39	Sewerage; waste collection, treatment and disposal activities; materials recovery; remediation activities and other waste management services
27	41-43	Construction
28	45	Wholesale and retail trade and repair of motor vehicles and motorcycles
29	46	Wholesale trade, except of motor vehicles and motorcycles
30	47	Retail trade, except of motor vehicles and motorcycles
31	49	Land transport and transport via pipelines
32	50	Water transport
33	51	Air transport
34	52	Warehousing and support activities for transportation
35	53	Postal and courier activities
36	55-56	Accommodation; food and beverage service activities
37	58	Publishing activities

A*64 Cont.

38	59-60	Motion picture, video and television programme production, sound recording and music publishing activities; programming and broadcasting activities
39	61	Telecommunications
40	62-63	Computer programming, consultancy and related activities; information service activities
41	64	Financial service activities, except insurance and pension funding
42	65	Insurance, reinsurance and pension funding, except compulsory social security
43	66	Activities auxiliary to financial services and insurance activities
44	68	Real estate activities
44a		<i>of which: imputed rents of owner-occupied dwellings</i>
45	69-70	Legal and accounting activities; activities of head offices; management consultancy activities
46	71	Architecture and engineering activities; technical testing and analysis
47	72	Scientific research and development
48	73	Advertising and market research
49	74-75	Other professional, scientific and technical activities; veterinary activities
50	77	Rental and leasing activities
51	78	Employment activities
52	79	Travel agency, tour operator reservation service and related activities
53	80-82	Security and investigation activities; services to buildings and landscape activities; office administrative, office support and other business support
54	84	Public administration and defence; compulsory social security
55	85	Education
56	86	Human health activities
57	87-88	Social work activities
58	90-92	Creative, arts and entertainment activities; libraries, archives, museums and other cultural activities; gambling and betting activities
59	93	Sports activities and amusement and recreation activities
60	94	Activities of membership organisations
61	95	Repair of computers and personal and household goods
62	96	Other personal service activities
63	97-98	Activities of households as employers of domestic personnel and undifferentiated goods and services production of households for own use
64	99	Activities of extraterritorial organizations and bodies

A two-step implementation is proposed according to length of backdata (back to 2000 in 2011, back to 1995 or 1990 in 2012). As regards the length of the time series which have to be made available the transmission program will make a distinction between “old member countries” and “new member countries”, a distinction which will lead to a certain “two-class society”. The main time series according to Table 1 of the transmission program will have to start in 1990 for Belgium, Denmark, Germany, Ireland, Greece, Spain, France, Italy, Luxembourg, the Netherlands, Austria, Portugal, Finland, Sweden and the United Kingdom. Bulgaria, the Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Romania, Slovenia and Slovakia will be only forced to start their series in 1995.

Tables 15 (supply table) and 16 (use table) have first to be transmitted using the P*64 breakdown for the reference period 2008 by 31 December 2011. Tables 17, 18 and 19 (symmetric input-output tables, product by product) have first to be transmitted using the P*64 breakdown for the reference period 2010 by 31 December 2013.

For supply-use and input-output tables no backward data is requested.

2.3 CPC Ver. 2

The revised Central Product Classification CPC is still in the stage of a draft. The draft is available at the UNSD homepage <http://unstats.un.org/unsd/cr>. Some editing needs to be done and explanatory notes will be added. However, there are no changes to the structure expected.

CPC arranges products according to the physical characteristics and of the services. This criterion includes, for example, the type of raw material used, the production process involved, the purpose for which the goods are intended, etc. Although this criterion is often the same as the one used for the classifications of economic activities, the CPC is not a product classification depending on the classification of economic activities. The CPC coding system is independent of ISIC.

2.4 CPA 2008

CPA is the EU version of the CPC, and the purposes it serves are in line with those of the CPC. The use of CPA 2008 is also mandatory in the EU and based on Regulation (EC) No 451/2008 of the European Parliament and of the Council.

In the EU, product classifications for specific statistical domains are linked to the CPA unless the CPA is itself used as a survey classification. Although the CPA is the European counterpart of the CPC, it differs from the latter not only in that it is usually more detailed, but also as regards its structure. The EU adopted the criterion of economic origin for its development, with NACE as the reference framework. Therefore, up to the fourth level (classes) the structure of CPA corresponds to NACE. The link between the CPA and NACE Rev. 2 is evident in the CPA code: the coding of the first four digits is identical with that used in NACE Rev. 2, with very few exceptions.

3. Revision of the system of national accounts

3.1 SNA 2003 Rev – SNA 2008

In 2003, the UN Statistical Commission called for an update of the System of National Accounts 1993 (SNA 1993) to bring the System into line with the new economic environment, with advances in methodological research and to remove inconsistencies in the SNA 1993.

The Inter-secretariat Working Group on National Accounts (ISWGNA) was asked to coordinate and manage the project. The result of these efforts is usually called SNA 1993 Rev, but sometimes also termed SNA 2008. The Inter-secretariat Working Group on National Accounts comprised experts from Eurostat, the International Monetary Fund, the OECD, the United Nations and the World Bank. In addition an Advisory Expert Group (AEG) was established, consisting of 20 experienced national accountants from Statistical Offices around the world.

According to the Report of the Intersecretariat Working Group on National Accounts to the UN Statistical Commission 2007 (Doc E/CN.3/2007/7) “the majority of the recommendations relate to units and transactions that represent characteristics of an increasingly globalized economy; come from increased interest in the sources of wealth and debt; recognize the increasing role of intangible nonfinancial assets; take into account further innovation in financial markets; reflect the interest in better measures of the impact of pension liabilities in the context of an ageing population; and recognize the need for better measures of government and public-sector debt and deficit.”

Early in the process general agreement was reached that the revision should deal with issues emerging from new economic developments such as globalisation, but that no fundamental changes should be made in the System. In addition the need for clarification of several regulations was acknowledged. A close coordination of the update of the 1993 SNA and the revision of the Balance of Payments Manual, Fifth Edition is another outstanding feature.

In March 2007, the UN Statistical Commission adopted the report presented by the ISWGNA on the SNA update covering recommendations on 44 issues identified. On five issues, listed below, world-wide consultation has revealed a lack of unanimity with the AEG recommendations: (i) government employer pension schemes and social security schemes; (ii) research and development; (iii) goods for processing; (iv) military expenditures; and (v) inclusion of capital services on non-market production (not adopted). With their adoption, these recommendations together with the additional considerations are officially recognised as the basis for the revised (new) SNA. A documentation of the state of the revision is available under <http://unstats.un.org/unsd/sna1993/snarev1.asp>.

The revised SNA will be provided in a two-part delivery. Volume 1 was already submitted to the UN Statistical Commission in March 2008. Volume 1 comprises the full set of chapters that represent the SNA framework in terms of accounting conventions, the accounts, and the integration of the accounts. Volume 1 incorporates the adopted recommendations on the 44 issues on which full consensus was reached. Volume 2 comprises mainly the interpretation of the accounts and various extensions such as satellite accounts. According to the schedule it should be ready by December 2008 and should be submitted to the UN Statistical Commission in March 2009.

List of issues considered in the update of the 1993 SNA

- 1 Repurchase agreements
- 2 Employers' pension schemes
- 3 Employee stock options
- 4a Non-performing loans
- 4b Valuation of loans and deposits; Write-off and interest accrual on impaired loans
- 38c Application of the accrual principle to debt in arrears
- 5 Non-life insurance
- 6a Financial services
- 6b Allocation of the output of central banks
- 7 Taxes on holding gains
- 8 Interest under high inflation
- 9 Research and development (R&D)
- 10 Patented entities
- 11 Originals and copies
- 12 Databases
- 13 Other intangible fixed assets
- 14 Costs of ownership transfer
- 15 Cost of capital services
- 16 Government and non-market producers: cost of capital of own assets
- 17 Mineral exploration
- 18 Right to use/exploit non-produced resources between residents and non-residents
- 19 Military expenditures
- 20 Land improvements
- 21 Contracts, leases and licences
- 22 Goodwill and other non-produced assets
- 23 Obsolescence and consumption of fixed capital
- 24 Public-private partnerships (PPPs) (including buy-own-operate-transfer (BOOT) schemes)
- 25a Ancillary units
- 25b Holding companies, special purpose entities, trusts
- 25c Treatment of multi-territory enterprises
- 25d Non-resident unincorporated units
- 25e Non-resident SPEs controlled by government
- 26 Cultivated assets.
- 27 Classification and terminology of assets
- 28 Amortization of non-produced assets
- 29 Assets boundary for non-produced intangible assets
- 30 Definition of economic assets
- 31 Water as an asset
- 32 Informal sector
- 33 Illegal activities
- 34 Government transactions with public corporations: earnings from equity investment and capital injections
- 35 Tax revenues, uncollectible taxes and tax credits
- 36 Public/private/government sectors delineation
- 37 Granting and activation of loan guarantees
- 38a Change of economic ownership (as term)
- 38b Assets, liabilities and personal effects of individuals changing residence ("migrants' transfers")
- 38c Application of accrual principles to debt in arrears
- 39a Meaning of national economy
- 39b Predominant centre of economic interest (as term)
- 39c Residence of entities with little or no physical presence
- 39d Non-permanent workers
- 40 Goods for Processing
- 41 Merchanting
- 42 Retained earnings of mutual funds, insurance companies and pension funds
- 43a Treatment of index-linked debt instruments
- 43b Debt indexed to a foreign currency
- 43c Interest at concessional rates
- 43d Fees payable on securities lending and gold loans
- 44 Financial assets classifications

As might be seen from this list many issues deal with non-financial assets (more than 20), financial services, financial instruments and government and the public sector in general. A group of issues is also devoted to the relations of the national economy to the rest of the world and to the central question of the underlying statistical units.

According to the report by the ISWGNA to the Statistical Commission (Paper E/CN.3/2007/7) the following solutions will be incorporated as far as the most controversial issues are concerned:

Issue 9 Research and development

Research and development should be treated as gross fixed capital formation. It should be defined as in the Frascati manual, namely as “research and experimental development comprises creative work undertaken on a systematic basis in order to increase the stock of knowledge, including the knowledge of man, culture and society and use of this stock of knowledge to devise new applications.” This definition should not be interpreted as including human capital as capital formation within the SNA. Since much R&D is carried out on own account, it should be valued at cost.

Issue 15 Cost of capital services

Given the importance of identifying them for productivity measurement and other analysis, a new chapter will be added explaining the role and appearance of capital services in the System and stressing the desirability of calculating capital services, capital stock and consumption of fixed capital in an integrated and consistent manner. No changes will be made to standard entries in the accounts to show capital services but an explanation will be provided of how optional, supplementary items or tables could be derived and presented. The identification of the cost of capital for market producers is voluntary within the recommended supplementary accounts.

Issue 16 Government and other non-market producers: cost of capital of own assets

No agreement was reached concerning the proposal that a return to fixed capital owned and used by non-market producers should be included in the estimation of the output of those producers in addition to estimates of consumption of fixed capital.

Issue 19 Military expenditures

In contrast to previous conventions all military expenditure that meets general SNA criteria for capital formation — that is, being used in production over a period in excess of one year — will be treated as capital formation in the revised SNA. Weapon systems and military inventories would be distinguished within fixed capital formation and inventories, respectively.

Issue 40 Goods for processing

Imports and exports should be recorded on a strict change of ownership basis. Goods being processed in one country on behalf of a unit residing in another country would no longer be part of imports and exports in the balance of payments and SNA. This decision has implications for the input-output tables, which on the proposed basis will reflect what each unit contributes to the production process rather than the physical technology, as it was the case before.

How to measure transactions in volume terms does not show up among the issues considered in the revision process. Nevertheless some excerpts of Chapter 15 of the Draft SNA 2008 (Volume 1) show a certain re-orientation in this respect compared to the SNA 1993:

15.166 The recommendations reached above on expressing national accounts in volume terms may be summarized as follows:

- a. Volume estimates of transactions in goods and services are best compiled in a supply and use framework, preferably in conjunction with, and at the same time as, the current value estimates. This implies working at as detailed a level of products as resources permit.
- f. The preferred measure of year-to-year movements of GDP volume is a Fisher volume index; changes over longer periods being obtained by chaining: that is, by cumulating the year-to-year movements.
- g. The preferred measure of year-to-year inflation for GDP and other aggregates is, therefore, a Fisher price index; price changes over long periods being obtained by chaining the year-to-year price movements, or implicitly by dividing the Fisher chain volume index into an index of the current value series.
- h. Chain indices that use Laspeyres volume indices to measure year-to-year movements in the volume of GDP and the associated implicit Paasche price indices to measure year-to-year inflation provide acceptable alternatives to Fisher indices.
- i. Chain indices for aggregates cannot be additively consistent with their components whichever formula is used, but this need not prevent time series of values being compiled by extrapolating base year values by the appropriate chain indices.

A provision similar to the one in the SNA 1993 that "disaggregated constant price data should be compiled and published in addition to the chain indices for the main aggregates. The need to publish two sets of data that may appear to conflict with each other should be readily appreciated by analysts engaged in macroeconomic modelling and forecasting" (SNA 1993, 16.75) is missing.

3.2 Revision of the European system of national accounts ESA

In the EU national accounting is governed by legally binding regulations because results of national accounts are to a large extent directly used for operational/administrative purposes. Examples are the own resources of the EU, structural funds, EDP and convergence programs. At present Council Regulation No 2223/1996, later amended by several regulations is in force. The compulsory transmission program in force is laid down in Regulation No 1392/2007.

The European system of national accounts ESA is broadly consistent with the SNA as regards definitions, accounting rules and classifications. When SNA is flexible and includes several alternatives, ESA generally chooses a particular option to guarantee full comparability at EU level. ESA usually describes a concept by providing a definition and a listing of what is included and what is excluded.

The revision of the SNA will be followed by a revision of the ESA. Changes will cover both methodological references and data transmission requirements.

The project to arrive at a new ESA consistent with SNA 2008 will start from the consolidated text, which is the text of Regulation No. 2223/96 and the Regulations which came in force afterwards. The most important ones deal with

- allocation of FISIM
- definition of general government expenditure and revenue
- taxes and social contributions unlikely to be collected
- reclassification of settlements under swaps and forward rate arrangements
- revised classification of expenditure according to purpose

The plan is to terminate the process of drafting and discussing the new ESA until February 2009. The discussion on the amended transmission programme should also be finished by February 2009.

The adoption of the regulation by the European Parliament and the Council is scheduled for the first quarter of 2011. The new ESA methodology and the new transmission programme should become legally binding in 2014.

4. Consequences for INFORUM Modelling

The changes in the activity and product classification systems in the near future will probably have more severe consequences on INFORUM modelling activities than the revision of national accounts.

Even a short look at the new classification systems reveals that the needs of model builders and the builders of input-output models in particular were not taken into account in the revision process.

The industries on the two digit level are still extremely inhomogeneous as far as intermediate inputs and inputs of primary factors of production are concerned. No attempts were made to reduce vertical integration with all its undesired consequences for economic analysis in general and input-output analysis in particular. Examples for such vertically integrated activities are industry 35 (Electricity, gas, steam and air conditioning supply) and industry 17 (Manufacture of paper and paper products). A certain progress can be seen in the fact that at least manufacture of basic pharmaceutical products and pharmaceutical preparations is now classified in a separate Division. But again this industry is characterized by vertical integration.

The aggregation of NACE Divisions 13, 14 and 15 (textiles, wearing apparel and leather products) into industry 6 (and a corresponding product group) in the EU A*64 and P*64 standard disaggregation has to be seen as a major drawback. The A*64/P*64 breakdown will be the standard for compiling supply and use tables. The additional details (compared to the present classification) as far as services are concerned offer few additional analytical opportunities in an input-output context.

One of the outstanding features of INFORUM models (have all the properties of macromodels) is that modelling is done on the industry and product level. The estimation of the parameters in all the behavioural equations on industry/product level which play an important role in all INFORUM models is primarily based on time series information. Long and homogeneous (as far as the data generating process is concerned) series therefore are very important for a sound empirical basis.

The change in the classifications will necessarily lead to disruptions in many time series. In cases in which there is no 1 to 1 correspondence or a n to 1 correspondence between NACE Rev. 1.1 and NACE Rev. 2 the range of meaningful parameter estimation will depend on two factors:

- Whether the Statistical Offices will be ready to produce long homogeneous series, even beyond what is mandatory according to EU regulations.
- On the methods used for the backcasting process in the cases of 1 to m and n to m correspondence. In this context it will be of crucial importance that this backcasting is done within a coherent methodological framework.

If the backcasting is done for each of the series independent from one each other parameter estimation will be seriously biased reflecting differences in the backcasting procedures and not economic behaviour.

In the context of INFORUM models it is worthwhile mentioning that the modifications in the classification systems are rather limited as far as the manufacturing industries/products are concerned. Major discontinuity will only result from the isolation of repair and installation of machinery and equipment, which was formerly classified under manufacturing of the corresponding type of equipment.

The change of the classification systems will have a major impact on the quality and the nature of national accounts results in the transition period 2008 to 2011. The results will be presented in a disaggregation by NACE Rev. 1.1. The underlying basic statistics, however, are already produced in NACE Rev. 2 breakdown and the coverage of statistics such as the short term business statistics is also already determined by NACE Rev. 2 criteria. National accountants will have to do a lot of extra modelling work and be quite creative to re-arrange the input data according to the new classifications into an old framework. Consequently, even the final results for 2008 and 2009 will not be fully compatible with the results of the reference years before 2008. This specific data situation is an additional source for discontinuity in the time series.

Compared to the implications of the changes in the classification systems relatively minor changes in the overall statistical environment will occur because of the revision of the SNA.

This relative overall stability in the SNA also implies that the needs of structural long term analysis are not better met in the new System compared to the old System. This is also illustrated by the preference which is given to chaining instead of using a constant base year. It is quite obvious that in the forthcoming EU versions of the SNA 2008 emphasis will again be laid on the administrative use of national accounts.

The fact that the entire statistical system in the EU is governed by regulations has one advantage for INFORUM modelling. Planning is made easier. Model builders know well in advance which kind of statistical information will be available when.

In the next years the statistical environment of INFORUM models will experience a number of considerable changes: Another real challenge for those engaged in building dynamic interindustry models.

5. References

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Regulation (EC) No 1392/2007 of the European Parliament and of the Council of 13 November 2007 amending Council Regulation (EC) No 2223/96 with respect to the transmission of national accounts data (Text with EEA relevance)

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