



**STATISTICS DIRECTORATE
STATISTICAL INFORMATION MANAGEMENT AND SUPPORT DIVISION**

STD/SIMS(2004)3
Unclassified

OECD EXPERT GROUP ON STATISTICAL DATA AND METADATA EXCHANGE

**The NAWWE Project
National Accounts World-Wide Exchange**

**1-2 April 2004
Château de la Muette**

This document was first presented at the Meeting of the High Level Group on Statistics on 13 June 2002 in Paris as Room Document 9

JT00158702

Document complet disponible sur OLIS dans son format d'origine
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1. The objective of this paper is to propose a project for changing radically the approach of data exchange in the field of national accounts through the use of a standard codification scheme and of a system of shared web sites.
2. It recommends, depending on the agreement of our international organisations partners and in particular Eurostat, launching in 2003 an international project, called NAWWE¹, with the objective of installing an international codification scheme of national accounts time-series which could progressively replace at low costs the current program of national accounts data transmission, while boosting the possibilities for all users to easily access national accounts data.
3. The codification scheme already exists. It is embodied in the structure of the current Eurostat/OECD questionnaire on national accounts. There are therefore no additional costs to be expected to create the codification scheme. The originality of NAWWE is simply to propose that this codification scheme become implemented in practice on the web sites of participating countries. Rather than used as a tool to data transmission to international organisations, the codification scheme could thus become the base of a real worldwide exchange of national accounts data, illustrating the fact that new technologies, associated with international normalisation, can really change the picture.
4. As far as technical formats are concerned, national accounts are currently transferred from NSOs to international organisations using either a version of GESMES² or a spreadsheet format. Those formats do not permit to fully exploit the possibilities offered by the web for sharing data. The use of web based technologies for the transmission and sharing of statistics is being explored by a group of experts from international organisations called SDMX³. The results of that work could be used, at a later stage of the NAWWE project, to further improve the efficiency of the technical presentation of national accounts data on the web. This combined with the standard codification scheme will provide the foundations for an international virtual database of national accounts data.

I. There is already implicitly an international codification scheme for national accounts

5. Following the implementation of SNA 93/ESA 95, the OECD and Eurostat developed a common questionnaire for quarterly and annual national accounts. In this paper we will refer to it as the “ESA/SNA questionnaire”. In fact this tool which was developed to improve data collection by international organisations is more than a questionnaire. It introduces implicitly an international standard of data identification and definition.
6. SNA 93 and ESA 95 use the same codifications for their transaction and sectoral classifications. For example, net lending/borrowing of the general government is identified as B9-S13. All the other characteristics of national accounts variables (current/constant prices, product and industry breakdowns,...) are codified within this codification scheme. New definitions are developed inside this codification scheme, as for example the recent creation of the variable EDPB9 for the variant of B9 for the excessive deficit procedure for European countries.
7. Supported by this common language, Eurostat and the OECD were able to define a series of tables (there are around 56 different tables) that, in principle, cover the core of the data demanded by users of national accounts. The tables are separated in two series. The first series (tables which number starts by

1 National Accounts World-Wide Exchange

2. GESMES: an EDIFACT standard format developed for the exchange of statistics, see www.gesmes.org .

3. See www.sdmx.org

“01”) is called “Main Aggregates” and is supposed to be delivered with a shorter delay. The other tables are much more detailed and, for most of them, have not yet been transmitted by all countries.

8. As an example, table 0102 of the questionnaire, which is part of the Main Aggregates series is shown in Annex 1. As can be seen, the table consists basically of time-series that are referenced by a certain number of codes. Types of codes include TRANSACTION (TR), CURRENCY (MIO NAC), prices (CUP or COPYY). The transaction code for gross domestic product is TRB1*G. Other tables will include other types of codes, such, for example, as codes for institutional sectors, which do not appear in the context of table 0102, because it covers all resident institutional sectors.
9. The lists of codes are official and are made available by the OECD and Eurostat with the questionnaire. Annex 2 includes a sample of codes for transactions and the complete list of codes for institutional sectors. As can be seen, the list of codes is detailed and covers much more than what is generally available to outside users of national accounts.

II. An example of the proposed NAWWE identifier

10. There is no difficulty to transform Table 0102 in the codification scheme of an extract of a time-series database, with time series referenced by a unique identifier, which would be the result of the concatenation of the codes. The concatenation uses the several types of codes that are relevant to the table. In our example of table 0102, types of codes are Transaction, Currency, and Prices. For example, the time-series of GDP in table 0102, for France, at current prices, would be identified as: FRA_TRB1*G_MIO NAC_CUP. One can see the overall result of the transformation of table 0102 in this time-series database codification scheme in the first table of Annex 3. This system of identifier will now on be referred to in this paper as the “NAWWE identifier”.
11. The second table of Annex 3 illustrates a (fictitious) bridge table between the identifier of time series in a national database and the set of NAWWE identifiers. This table shows that, basically, the implementation cost of the NAWWE project for countries that currently have a national time-series database would be limited to building such bridge tables. In fact, once this bridge table is available, the data becomes automatically available to users in the international codification scheme.
12. These bridge tables have been implicitly or explicitly developed by countries that are participating to the current transmission program. It is thus probable that there will not be a large additional cost for these countries to modify the systems that they have implemented for the current program to make it compatible with the NAWWE bridge table.
13. In the NAWWE codification scheme, the data is presented as time series. In other words, time is given a privileged status among the different possible identifiers of a given data. This is quite natural given the importance of time-series in national accounts. Indeed, users give a very high priority to (long) time-series in national accounts data sets. Time-series are also most welcome by international organisations that can thus better monitor the revisions of historical data. However, some of the tables of the current ESA/SNA questionnaire are not presented explicitly as time series, but could be easily transformed in a time-series format. This can be discussed during the first phase of the project.
14. As should now be clear to readers, there should be no discussions in the proposed task force on the codes themselves. This has already been done. Technical matters regarding the codification scheme should thus be limited to the concatenation of the codes and to the issue of whether to preserve the organisation in tables (see box).

Organisation of the data in tables

Not only did the ESA/SNA questionnaire decide on an international system of codes, it also implicitly recognised a certain number of tables. The organisation in tables has three advantages. First, tables simplify the coding system by suppressing the necessity to include all types of codes in a given time series, on the basis of its context. For example, it is useless to have a code “Sum of regions” in all national accounts time series. The type “Region” is only useful in specific tables on Regions. The second advantage is that time series that are related appear next to each other. The third is for the staff of international organisations involved in the exchange of data: tables facilitate verification programs and facilitate the use of different time delays adapted to the different sets of data. They also facilitate the general communication between the international organisations and the national statistical offices. On the whole, they appear very useful in practice.

The proposed NAWWE identifier could, in principle, be implemented without reference to tables. For example, in theory, there is no need for time series TRB1*G_MIO NAC_CUP (Gross Domestic Product at current prices) to be physically present in several locations of the NAWWE database, because the time series is unique, and thus could be referenced only once⁴. However, the OECD is, at the moment, strongly in favor of maintaining an explicit system of tables, based on the current system.

15. On the whole, discussions regarding the principles of the NAWWE identifiers should be simple and limited in time. As all OECD and European Union member countries are currently requested to report in a format that is close to the proposed NAWWE codification scheme, it should not be so costly to implement the slight changes that would be needed. However, it could be in practice easier for European Union countries than for some non-European Union countries, when the latter's national systems are not fully consistent with international standards. But, in any case, these countries are strongly recommended by OECD to adopt the current ESA/SNA codification scheme as fully as possible.

III. From transmission to worldwide exchange

16. Once there is an internationally agreed codification scheme, the international exchange of data can be dramatically accelerated using new technologies. This would be the second phase of the NAWWE project. Countries would be requested to post on their own web sites the existing tables of the SNA/ESA questionnaire, in the NAWWE codification scheme. This does not mean that this codification scheme would become their unique format. Countries would be able to keep their own system of dissemination of data for national users.
17. While this would not be in the spirit of the project, countries could even protect their national format, by limiting access to the web site containing the international NAWWE codification scheme to selected international organisations. Despite its limitation, even this small improvement could boost international transmission of the data, rendering obsolete all discussions on reduction of double data collection by international organisations. It would also simplify processes for the countries themselves as they would only have to update their own web site, and would not have to transmit the data to several international organisations.

⁴ However, the example is not perfect: this time series could be not unique if GDP at current prices was calculated differently between the demand approach and the income approach. This remark reinforces the proposal to maintain the system of tables.

18. If countries also agreed to make these pages available to all public, any user could be in a position to obtain comparable data for several countries through a unique and simple web request. Also, international organisations' databases would also refer uniquely to this codification scheme. In other words, a codification scheme that was thought of being adapted to the transmission of data to international organisations would become a real international codification scheme, dramatically facilitating the exchange of data among all international data users.
19. Thus, in its second phase, the NAWWE project would propose a standardised presentation of the national accounts tables following the results of the SDMX group. This would need the support of some technical staff besides national accountants.

IV. Conclusion

20. The OECD proposes this project because, in our eyes, it should be a Win-Win project. At a small additional cost, the international exchange of national accounts data could be dramatically improved, for all users. National statistical offices could see their "transmission costs" decline, because they would simply have to update a unique database, leaving the responsibility to international organisations to pick the data as rapidly as possible. International organisations would gain a lot in transparency of data collection. They would not even have, in theory, the obligation of maintaining internal copies of the national data sets...In practice, things will probably be more complex, and a cautious step by step procedure is to be implemented.
21. We are therefore looking for a limited set of countries volunteering to participate in a pilot test exercise that would start in second quarter of 2003.

ANNEX 1

Questionnaire "SNA 93 / ESA 95"

Table 0102

01 Main aggregates

country:

currency:

MIO NAC

prices:

CUP and COPYY

Table 0102: GDP identity from the expenditure side

	Time code	gross domestic product	final consumption expenditure	gross capital formation	exports	imports	statistical discrepancy
code of transaction		TRB1*G	TRP3	TRP5	TRP6	TRP7	DETRB1*G
1	2	3=4+5+6-7+8	4	5	6	7	8
Current prices	CUP						
year 1970	1970						
year 1971	1971						
year 1972	1972						
year 1973	1973						
year 1974	1974						
year 1975	1975						
year 1976	1976						
year 1977	1977						
year 1978	1978						
year 1979	1979						
year 1980	1980						
year 1981	1981						
year 1982	1982						
year 1983	1983						
year 1984	1984						
year 1985	1985						
year 1986	1986						
year 1987	1987						
year 1988	1988						
year 1989	1989						
year 1990	1990						
year 1991	1991						
year 1992	1992						
year 1993	1993						
year 1994	1994						
year 1995	1995						
year 1996	1996						
year 1998	1998						
year 1999	1999						

ANNEX 2

Transactions (SNA 93 / ESA 95 + additional codes)**Sample of codes**

	Code
Output	TRP1
For domestic output	TRP1d
Market output	TRP11
Trade and transport margins	TRP118
Adjustment FISIM	TRP119
Output for own final use	TRP12
Other non-market output	TRP13
Payments for other non-market output	TRP131
Other non-market output, other	TRP132
Market output , output for own final use and payments for other non-market output	TRP11+TRP12+TRP131
Intermediate consumption	TRP2
For domestic output: Intermediate consumption	TRP2d
For imported products: Intermediate consumption	TRP2i
Final consumption expenditure	TRP3
For domestic output: Final consumption expenditure	TRP3d
For imports: Final consumption	TRP3i
Individual consumption expenditure	TRP31
Individual consumption expenditure of durable goods	TRP311
Individual consumption expenditure of non-durable goods	TRP312
Individual consumption expenditure of services	TRP313
Collective consumption expenditure	TRP32
Final consumption expenditure of resident households in the rest of the world	TRP33
Final consumption expenditure of non-resident households on the economic territory	TRP34
Actual final consumption	TRP4
Actual individual consumption	TRP41
Gross capital formation	TRP5
For domestic output: Gross capital formation	TRP5d
For imports: Gross capital formation	TRP5i
Gross fixed capital formation	TRP51
For imports: Gross fixed capital formation	TRP51i
For domestic output: Gross fixed capital formation	TRP51d
Changes in inventories	TRP52
For domestic output: Changes in inventories	TRP52d
For imports: Changes in inventories	TRP52i
Acquisitions less disposals of valuables	TRP53
Exports of goods and services	TRP6
For domestic output: Exports of goods and services	TRP6d
For imports: Exports of goods and services	TRP6i
Exports of goods	TRP61
Exports of services	TRP62
Imports of goods and services	TRP7
Imports of goods	TRP71
Imports of services	TRP72

Compensation of employees	TRD1
Wages and salaries	TRD11
Employers' social contributions	TRD12
Employers' actual social contributions	TRD121
Employers' imputed social contributions	TRD122
Taxes on production and imports	TRD2
Taxes on products	TRD21
Value added type taxes (VAT)	TRD211
Taxes and duties on imports excluding VAT	TRD212
Import duties	TRD2121
Taxes on imports, excluding VAT and import duties	TRD2122
Levies on imported agricultural products	TRD2122A
Monetary compensatory amounts on imports	TRD2122B
Excise duties	TRD2122C
General sales taxes	TRD2122D
Taxes on specific services	TRD2122E
Profits of import monopolies	TRD2122F
Taxes on products, except VAT and import taxes	TRD214
Excise duties and consumption taxes	TRD214A
Stamp taxes	TRD214B
Taxes on financial and capital transactions	TRD214C
Car registration taxes	TRD214D
Taxes on entertainment	TRD214E
Taxes on lotteries, gambling and betting	TRD214F
Taxes on insurance premiums	TRD214G
Other taxes on specific services	TRD214H
General sales or turnover taxes	TRD214I
Profits of fiscal monopolies	TRD214J
Export duties and monetary comp. amounts on exports	TRD214K

Sectors (SNA 93 / ESA 95 + additional codes)

Sector	Code
Total economy	SES1
Non-financial corporations	SES11
Public non-financial corporations	SES11001
National private non-financial corporations	SES11002
Foreign controlled non-financial corporations	SES11003
Financial corporations	SES12
The central bank	SES121
Other monetary financial institutions	SES122
Other financial intermediaries, ex. insurance corp. and pensions funds	SES123
Public other financial intermediaries, ex. insurance corp. and pension funds	SES12301
National private	SES12302
Foreign controlled	SES12303
Financial auxiliaries	SES124
Insurance corporations and pension funds	SES125
Public	SES12501
National private	SES12502
Foreign controlled	SES12503
General government	SES13
Central government	SES1311
State government	SES1312
Local government	SES1313
Social security funds	SES1314
Households	SES14
Employers (inc. own-account workers)	SES141+SES142
Non-profit institutions serving households	SES15
Rest of the world	SES2
The European Union	SES21
The member countries of the EU	SES211
Members of the Monetary Union	SES2111
Non-members of the Monetary Union	SES2112
The institutions of the EU	SES212
Third countries and international organisations	SES22
FISIM	SEFISIM
not sectorized	SESN
From general government	FRSES13
From the rest of the world	FRSES2
From the institutions of the EU	FRSES212
From all sectors without general government	FRSESOTH
To general government	TOSES13
To the rest of the world	TOSES2
To the institutions of the EU	TOSES212
To all sectors without general government	TOSESOTH
From/to all sectors	SESALL

ANNEX 3

Transformation of table 0102 in NAWWE time series codification scheme, (example: France)

NAWWE codes	1970	1971	1972	1973	1974	1975	1976
FRA_TRB1*G_MIO NAC_CUP							
FRA_TRP3_MIO NAC_CUP							
FRA_TRP5_MIO NAC_CUP							
FRA_TRP6_MIO NAC_CUP							
FRA_TRP7_MIO NAC_CUP							
FRA_DETRB1*G_MIO NAC_CUP							

Bridge table between a (fictitious) national codification scheme and the NAWWE format

In this fictitious example, the assumptions are that the national identifier (left column) use the official SNA transaction codes, includes a code for institutional sectors (but equal to TOT for the sum of institutional sectors) and use "1" for current prices. The country does not calculate a statistical discrepancy, so the last time series is blank in the national data base.

Country C: National codes	NAWWE codes (example France)
B1G_TOT_1	FRA_TRB1*G_MIO NAC_CUP
P3_TOT_1	FRA_TRP3_MIO NAC_CUP
P5_TOT_1	FRA_TRP5_MIO NAC_CUP
P6_TOT_1	FRA_TRP6_MIO NAC_CUP
P7_TOT_1	FRA_TRP7_MIO NAC_CUP
	FRA_DETRB1*G_MIO NAC_CUP