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National Accounts and Economic Statistics - Financial Accounts

Annexes to the progress report on the OECD financial accounts database

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WORKING PARTY ON FINANCIAL STATISTICS

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ANNEXES TO THE PROGRESS REPORT ON THE OECD FINANCIAL ACCOUNTS DATABASE

Various papers from national delegates as well as OECD papers have been prepared to complete the different items which are reviewed in the Secretariat's main document on the Financial accounts database. Among these papers, you will find in the annex the following contributions:

Annex 1: Collection of annual data on a quarterly basis

Canada: Quarterly Financial and Balance Sheet Accounts

United-States: Quarterly financial accounts

Annex 2: Inclusion of global balance sheets

OECD: Table 2600

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OECD: Member countries' practices

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Annex 5: Unallocated sector

Norway: Unallocated sector: the practice in the Norwegian Financial Accounts - FINSE

Canada: Discrepancies in the SNA – Financial Account and Balance Sheet Account

Other notes: Unallocated sector: the practice in Sweden and in the United States

ANNEX 1: Collection of annual data on a quarterly basis

Quarterly Financial and Balance Sheet Accounts

Note by Patrick O'Hagan

Statistics Canada – Income and Expenditure Accounts

1. It is evident that substantial progress has been made in recent years at the OECD in the area of financial accounts. The re-instatement of the **Financial Account** and **Balance Sheet Account**, since the move of the WPFA from the DAFPE Directorate to the Statistics Directorate, was a welcomed and major accomplishment. Some work continues to be done on the harmonization side (e.g., consolidation issues), on the detail for analytical uses (e.g., supplementary detail on household sector assets), and additional efforts are being undertaken on the production and dissemination side. Not surprisingly, topics closely related to these issues have been significant ones on the WPFA agenda in the last two years. Availability and use of quarterly data is one such topic.

The issue

2. Some OECD member countries produce quarterly estimates of the **Financial Account (FA)** and the **Balance Sheet Account (BSA)**. In the October 2004 WPFA meeting, as part of the discussion on the new OECD financial accounts releases, the issue of collecting data on a quarterly basis was raised. Further to this point, it was suggested that it might also be useful for the OECD to consider the release of selected countries' quarterly data.

3. To this end, Canada was asked to prepare a short note on the issues surrounding the production and release of quarterly SNA financial data.

Framework and use of quarterly data in Canada

Data availability

4. In the Canadian System of National Accounts (CSNA), with the exception of the regional accounts as well as the production based annual input-output accounts and monthly industry measures, national accounts data are compiled and released on a quarterly basis. This includes the international accounts, the **Income and Expenditure Accounts (GDP)** as well as the closely-integrated **FA (Financial Flow Accounts)** and **BSA (National Balance Sheet Accounts)**. The **FA** was first released in 1968 and, from its inception, it was a quarterly product. A financial balance sheet account was available in 1972, and a full balance sheet account was added in 1983. However, the **BSA** account has only more recently been converted to quarterly frequency.

5. The decision to produce quarterly data has both a demand and supply dimension to it. First, it is based on an assessment of user demand. More will be said on this point below. Second, it is based on the availability of sub-annual sources of data and/or indicators. In Canada, the source information required to produce the **FA** and **BSA** is primarily quarterly in nature. In particular, the developments of some of the quarterly surveys (most notably, the enterprise survey), were directly (though not exclusively) linked to the development of the **FA**. Certain high frequency (monthly, weekly) financial market information is also used in the compilation of **FA** and **BSA**.

6. Quarterly **FA** and **BSA** data cover all of the sectors and sub-sectors of the economy, which map reasonably closely to those of SNA93. The total number of distinct sub-sectors is 30, with the emphasis

(approximately 20 sub-sectors) on financial corporations. Notably, quarterly survey information for the financial corporations' sub-sectors (industries) is based on, or approximates closely, universe coverage. Current period federal and provincial government sector data are based on high frequency (monthly and quarterly) administrative data. Household sector data are based, to a very large extent, on counterpart information from the financial institutions. Data on non-financial corporations and governments are also supplemented by counterpart information from the financial institutions.

7. Quarterly **FA** data are also available on a seasonally-adjusted basis for the five main sectors of the economy and for an aggregation of financial instruments since 1997. This allows for an explicit link to the seasonally-adjusted quarterly GDP-based *Income and Expenditure Accounts*. Quarterly **BSA** data will soon be available on a seasonally-adjusted basis, at the same level of detail as the **FA**.

8. Timeliness of data releases are important to the user community, and depend on the availability of source data. In the case of the quarterly **FA** and **BSA** timeliness improved over the 1980's to the point where the **FA** is released within 60 days of the reference period (coincident with the other CSNA quarterly component accounts), and the **BSA** within about 75 days of the reference period. These changes have reflected improvements in the timeliness of the principal survey source information. Time series for both sets of data begin in 1961.

9. Data accessibility has also evolved to the point where **FA** and **BSA** are now released in electronic form only including:

- *The Daily* – Statistics Canada's electronic press release (analytical highlights)
- *Canadian Economic Accounts* – Integrated CSNA quarterly E-publication (major series SNA series only, by component account and including analytical text)
- Spreadsheet-based diskette product (full time series)
- **CANSIM** – Statistics Canada's massive socio-economic database (full time series)

Revisions' policy and practice

10. A comprehensive revisions' policy was adopted many years ago in the CSNA, so as to provide to the user community with a predictable degree of stability in the statistical revisions, while also allowing for the incorporation of the most accurate and reliable data possible. In all of the integrated component accounts of the SNA revision practice is consistent.

11. Looking at the quarterly **FA** and **BSA** account components, revisions practice is as follows:

- Quarterly revisions: All quarters of the current production year are open for revision. For example, when we process the third quarter of 2005 (in November), the first and second quarters of 2005 will be open for revision. Because sources are primarily quarterly in nature, data are not considered nor qualified as preliminary. Revisions will largely reflect more complete quarterly survey data (improved response rates), as well as updated quarterly administrative data.
- Annual revisions: These are undertaken at the time of the first quarter production cycle -- May for the **FA**, June for the **BSA**. They cover the last four years and mainly incorporate (i) the impact of the overall benchmarking process in the SNA, (ii) audited Public Accounts of federal and provincial governments, and (iii) the incorporation of tax data in universe estimates of the quarterly business surveys.
- Historical revisions: These take place roughly every 10 years or so and typically include changes of a conceptual nature. The next such revision will incorporate revisions to SNA93.

Use of quarterly data in Canada

12. High frequency timely data are relevant for current analysis. The FA and BSA provide supporting analytical information to the quarterly income and expenditure estimates. There is a demonstrated demand for quarterly financial data in Canada, and this demand is growing.

13. The quarterly FA are used for financial analysis, to assist in trend-cycle forecasts of economic activity, to understanding the financing of economic activity for policy and other purposes, to analyze the impact of changes in saving in the economy. On the latter point, FA shed light in the trend decline in the personal saving rate by illustrating the uses of personal saving.

14. The quarterly BSA is also used for current analysis as well as the study of structural changes (regulatory changes, takeovers, privatizations, long-term trends analysis, etc.) in the economy. Forecasts of the economy are increasingly making use of the changes in wealth, in particular capital gains and losses in the sectors of the economy. Government, corporate and household (gross and net) debt are closely monitored series. In Canada, the impact of the decline in personal saving has been more than offset by increases in the value of household assets.

15. A recent survey of the user community has strongly supported the need for quarterly financial information in the SNA. In particular, there was a demand for an expansion of such information to include more emphasis on pension saving and assets by type of scheme. In response, a quarterly *Pension Satellite Account* is under development.

Quarterly data in the OECD FA and BSA

16. The feasibility of integrating quarterly data in the OECD FA and BSA depends to a very large extent on the availability of quarterly estimates in the member countries. For those countries that compile quarterly financial accounts, it may be advantageous to the OECD to look into processing data on a quarterly basis, and possibly releasing selected quarterly estimates.

17. The Statistics Directorate at the OECD has a daunting task in the case of FA and BSA – to prepare and release harmonized data for member countries. This reflects the different dimensions and presentations across the member countries of the financial accounts. However, it also reflects the different timing of releases and the different revisions' practices of the same countries. A better understanding of the availability of the various countries' data could help reduce the OECD workload by eliminating certain bottlenecks in the production process. For example, country data submissions could be spread out over the year by linking to countries' annual revisions cycle. For those countries with quarterly estimates available, quarterly submissions could also be considered. This could allow for more flexibility in the OECD production process and could possibly help to plan for the most optimal timing of OECD data releases.

18. The issue of releasing quarterly (and timelier) OECD data for selected countries depends on the demand for this information. While current analysis may be a main use of FA and BSA in the member countries, this may not be the case for the multi-country OECD releases. It can be argued that international comparisons – a key use of OECD releases – focus more on structural changes. As such, reasonably lengthy, detailed and consistent time series across countries may well be the most important features of the OECD FA and BSA databases.

19. It may be worth assessing the feasibility of collecting quarterly FA and BSA data on a voluntary basis from certain member countries. An important consideration, however, is that quarterly submissions to the OECD not materially increase the response burden of those same countries. It may also be worth assessing the feasibility of releasing publishing (electronically) quarterly OECD data for selected member countries.

ANNEX 1: Collection of annual data on a quarterly basis (continued)

Quarterly financial accounts

**Note by Susan Hume McIntosh
US Federal Reserve Board**

1. In the United States, financial accounts (FFA) data showing quarterly flows have been available to the public since August 1959. Quarterly end-of-period amounts outstanding were added to the publication in the early 1990's. Prior to that only year-end outstandings were released to the public. The quarterly time series on flows and outstandings begin in 1952, with annual data available from 1945.
2. FFA has always endeavored to maintain consistency with the national income and product accounts (NIPA) published by the U.S. Department of Commerce. In 1947, quarterly NIPA data were first released for that year. Balance of payments data produced by the U.S. Department of Commerce have been available quarterly for over forty years. Data for depositories and the federal government have also been available on a quarterly frequency for many years. Although there are some data sources used in compiling the FFA that are only available annually, such as information based on tax returns, most data sources in the U.S. are available on a quarterly basis, albeit some with several quarters lag. However, we usually have sample or proxy data to construct a quarterly series from our annual benchmark data when data for the full universe is not available quarterly.
3. Quarterly time series have much more timely analytical value than only annual series. While annual series will reflect the same secular trends, more current information on the flows and balance sheets of sectors in the economy can be gleaned from quarterly time series. The FFA is published about five weeks after the end of the quarter, and thus, can give a fairly complete and current picture of the financial flows for the U.S. economy. The mostly recently published quarterly data, along with even higher frequency data for the securities markets, become the starting point for constructing a financial forecast that can be used by U.S. policy makers and market analysts. Thus, compiling financial accounts on a quarterly basis seems to be useful for analytical purposes. With only annual data, changes in business cycles and balance sheet positions can be obscured, while any more-frequent data are very hard to come by or would tend to have a lot of noise.

Annex 2: Inclusion of global balance sheets
Joint Questionnaire OECD/Eurostat "SNA 93 / ESA 95"

Questionnaire "SNA 93 / ESA 95"

Table 2600 : Balance sheets for non-financial assets Table 2600

country: AN..N
 stocks: MIO NAC
 unit: MIO NAC
 prices: CURR
 year:

Sectors	Asset code	Total economy	Non-financial corporations	Financial corporations	General government	Households and non-profit institutions serving households
Non-financial assets	code of sectors	SES1	SES11	SES12	SES13	SES14+SES15
NON-FINANCIAL ASSETS	AN					
Produced assets	AN1					
Fixed assets	AN11					
Tangible fixed assets	AN111					
<i>Dwellings</i>	AN1111	x				
<i>Other buildings and structures</i>	AN1112					
Non-residential buildings	AN11121					
Other structures	AN11122					
<i>Machinery and equipment</i>	AN1113					
<i>Cultivated assets</i>	AN1114					
Intangible fixed assets	AN112					
<i>Mineral exploration</i>	AN1121					
<i>Computer software</i>	AN1122					
<i>Entertainment, literary or artistic originals</i>	AN1123					
<i>Other intangible fixed assets</i>	AN1129					
Inventories	AN12					
Valuables	AN13					
Non-produced assets	AN2					
Tangible non-produced assets	AN21					
Land	AN211					
Subsoil assets	AN212					
Non-cultivated biological resources and Water resources	AN213+AN214					
Intangible non-produced assets	AN22					

ANNEX 3: Sources and methods relating to financial accounts

Survey on Consolidation in Financial Accounts

By OECD

1. Introduction

1. Generally speaking, entries in the System of National Accounts are not consolidated. According to the System of National Accounts 1993 (SNA93), financial flows and stocks of the institutional units which make up the sub-sectors must not in principle be consolidated. For sub-sectors or sectors, flows and stocks between constituent units are not consolidated as well.

2. However, the value of the concept of consolidation is recognized and consolidated financial accounts are useful for some types of analysis.

2. Definition

3. Article 2.80 of the System of National Accounts 1993 (SNA93) defines consolidation: "Consolidation may cover various accounting procedures. In general, it refers to the elimination, both from uses and resources, of transactions which occur between units when the latter are grouped and to the elimination of reciprocal financial assets and liabilities".

4. While the SNA does not give any instructions regarding consolidation, specific rules were agreed by Eurostat's Financial Accounts Working Party (FAWP) on 19-20 October 2000. These rules, which apply at the level of the sub-sector and the sector, are the following ¹:

- At sector level, "all transactions and stock positions between institutional units within the boundaries of the sector are eliminated".
 - SNA/ESA sectors to be considered are:
 - S11
 - S12
 - S13
 - S14-S15
 - At sub-sector level, "all transactions and stock positions between institutional units within the boundaries of the sub-sector are eliminated. This means that transactions or positions of institutional units within a particular sub-sector with institutional units outside this sub-sector are retained".
5. To be able to consolidate all operations of all sectors, a complete picture of all financial transactions and financial assets and liabilities in the balance sheets is necessary. This means that either direct information, including counterpart information, is available, or estimates can be done.
- SNA/ESA sub-sectors to be considered are:
 - S121 to S125
 - S1311 to S1314

¹ Manual on Sources and Methods for the compilation of ESA 95 Financial Accounts, first edition, 2002

3. Questions

General questions

1. Structure of your economy

Based on the SNA institutional sectors and sub-sectors, please give, on a separate sheet, a full picture of your economy. You can either list all entities belonging to each SNA sub-sectors (see Swedish example at the end of the document) or provide a table.

2. Do you compile the following financial accounts?

Financial account non consolidated		Financial account consolidated		Financial balance sheet non consolidated		Financial balance sheet consolidated	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
YES	NO	YES	NO	YES	NO	YES	NO

If you do not compile both consolidated and non-consolidated accounts, please explain why you do not or you cannot compile them:

.....

3. What is the primary source used in the compilation of your accounts? Are your data based on 'Enterprise' data or on 'Group' data?

.....

4. Does your consolidation rely on direct counterpart information or do you resort to assumptions and estimates?

.....

5. Have specific surveys to be conducted to get the counterpart information on specific instruments? If so please, specify

.....

6. Do you carry out estimates? If so, on which grounds/assumptions? Please explain the treatment applied

.....

Specific questions on sectors and instruments

7. Does your consolidation apply to:

<i>Sub-sectors only</i>	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
<i>Sectors only</i>	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
<i>Sub-sectors and sectors</i>	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>

Consolidation at the sector level

As there are no sub-sectors data requested for sectors S11 (Non-financial corporations), S14 (Households) and S15 (NPISH), information regarding their consolidation is required below under points 14 to 23.

8. **Is the sector S12 consolidated**, which means are all transactions and stock positions between sub-sectors S121 to S125 eliminated?

YES NO

If not, please explain why you do not consolidate the sector S12

.....
.....

9. Are all transactions/positions consolidated?

YES NO

If you reply 'NO': please specify which transactions/positions are not or cannot be consolidated and why they are not or they cannot be consolidated. Can you estimate the importance of the amount of the transactions between sub-sectors of S12?

.....
.....

10. For each consolidated transaction/position (F2 to F7), is the precise counterpart information directly available? From which source?

.....
.....

11. **Is the sector S13 consolidated**, which means are all transactions and stock positions between sub-sectors S1311 to S1314 eliminated?

YES NO

If not, please explain why you do not consolidate the sector S13

.....
.....

12. Are all transactions/positions consolidated?

YES NO

If you reply 'NO': please specify which transactions/positions are not or cannot be consolidated and why they are not or they cannot be consolidated. Can you estimate the importance of the amount of the transactions between sub-sectors of S13?

.....
.....

13. For each consolidated transaction/position (F2 to F7), is the precise counterpart information directly available? From which source?

.....
.....

Consolidation at the sub-sector level

Sectors S11 (Non-financial corporations), S14 (Households) and S15 (NPISH) are treated below as sub-sectors.

14. **Are all sub-sectors S121 to S125, S1311 to S1314, sectors S11, S14, S15 and combined sector S14-S15 consolidated?**

YES NO

If you reply 'NO', please specify which sub-sectors or sectors are not consolidated and why they are not consolidated:

.....

15. **Is the sector S11 consolidated, which means** are all transactions and stock positions between institutional units within the boundaries of the sector eliminated?

YES NO

If not, please explain why you do not consolidate the sector S11

.....

16. **Are all transactions/positions consolidated?**

YES NO

If you reply 'NO': please specify which transactions/positions are not or cannot be consolidated and why they are not or they cannot be consolidated. Can you estimate the importance of the amount of the transactions between institutional units within sector S11?

.....

17. For each consolidated transaction/position (F2 to F7), is the precise counterpart information directly available? From which source?

.....

18. **Are all sub-sectors S121 to S125 consolidated, which means** are all transactions and stock positions between institutional units within each of these sub-sectors eliminated? In that case, only transactions or positions of institutional units within a particular sub-sector with institutional units outside this sub-sector are retained.

YES NO

If one/all sub-sector(s) is/are not consolidated, please explain the reasons

.....

Is the combined sector S121-S122 consolidated?

.....

19. Are all transactions/positions consolidated?

YES NO

If you reply 'NO', please specify which transactions/positions are not or cannot be consolidated between which sub-sectors and why they are not or they cannot be consolidated. Can you estimate the importance of the amount of the transactions between institutional units within each of the sub-sectors?

.....
.....

20. For each consolidated transaction/position (F2 to F7), and each sub-sector of S12, is the precise counterpart information directly available? From which source?

.....
.....

21. **Are all sub-sectors S1311 to S1314 consolidated**, *which means* are all transactions and stock positions between institutional units within each of these sub-sectors eliminated? In that case, only transactions/positions of units within a particular sub-sector with units outside this sub-sector are retained.

YES NO

If one/all sub-sector(s) is/are not consolidated, please explain the reasons

.....
.....

22. Are all transactions/positions consolidated?

YES NO

If you reply 'NO', please specify which transactions/positions are not or cannot be consolidated between which sub-sectors and why they are not or they cannot be consolidated. Can you estimate the importance of the amount of the transactions between institutional units within each of the sub-sectors?

.....
.....

23. For each consolidated transaction/position (F2 to F7), and each sub-sector of S13, is the precise counterpart information directly available? From which source?

.....
.....

Annex 4: Reporting of the asset ‘Monetary gold and Special drawing rights (SDRs)’

Recording of the F.1/AF.1 asset in the financial accounts and in the financial balance sheets of OECD countries

By OECD

1. In the framework of OECD’s permanent work on the quality of national data and on the comparability between countries in the treatment of various instruments in OECD countries’ financial accounts and balance sheets, it has been noticed that countries follow different rules to report the *Monetary Gold and Special Drawing Rights (F.1/AF.1)*.

2. This chapter presents the various cases that occur in OECD countries; it gives some extracts from the SNA93 in which instructions can be found; it describes the current state of the art in OECD countries and when known, information relating to the rules underlying countries’ way of reporting this instrument in both accounts (flows and stocks) and justification of their method.

1. Possible occurrences

1.1 Various rules

3. Three different possibilities to record the F.1 (AF.1) asset, *Monetary gold and Special drawing rights (SDRs)*, in OECD countries’ financial accounts (transactions) and in OECD countries’ financial balance sheets (stocks) have been noticed:

Rule 1. To record *Monetary gold and Special drawing rights (F.1/AF.1)* on the asset side of the sector S121 (and/or S1311) and consequently S12 (S13 respectively) and S1
To report the same value, with an opposed sign, on the asset side of the S2 sector.

Rule 2. To record *Monetary gold and Special drawing rights (F.1/AF.1)* on the asset side of the sector S121 (and/or S1311) and consequently S12 (S13 respectively) and S1
Report the same value, with the same sign, on the liability side of the S2 sector.

Rule 3. To record *Monetary gold and Special drawing rights (F.1/AF.1)* on the asset side of the sector S121 (and/or S1311) and consequently S12 (S13 respectively) and S1
Not to record it at all in S2, neither on the asset side nor on the liability side.

4. It may also happen that F.1/AF.1 is split between the sector S121 and the sector S1311 (and consequently S12 and S13 respectively)

1.2 Consequences of the rules

5. The application of rules 1 and 2 allows maintaining

– the equilibrium between assets and liabilities of both sectors in both accounts (transactions and stocks)

$$A_{S1} + A_{S2} = L_{S1} + L_{S2}$$

if A corresponds to *Net acquisition of financial assets* (respectively *Total assets*) and L corresponds to *Net incurrence of liabilities* (respectively *Total liabilities*)

- and the equality of the absolute value of the net value of both accounts

$$|(A-L)_{S1}| = |(A-L)_{S2}| \text{ or } B9F_{S1} = - B9F_{S2} \quad (\text{respectively } BF90_{S1} = - BF90_{S2})$$

6. The consequence of applying rule 3 is that none of these equations is verified and the difference observed between the net value of both accounts corresponds to the values of F.1/AF.1

$$B9F_{S1} - B9F_{S2} = F1 \quad (\text{respectively } BF90_{S1} - BF90_{S2} = AF1)$$

2. SNA / ESA recommendations

2.1 Transactions

7. According to the SNA(§ 11.63) and SNA (§ 13.9), ‘*Monetary gold and SDRs issued by the IMF are assets for which there are no outstanding financial liabilities*’.

8. According to SNA (§ 11.64 and 11.67) and SEC (§ 5.29), the transaction in F.1/AF.1 which is recorded as asset of sector S121 (and consequently S12 and S1) must be reported on the asset side (with an opposite sign) of sector S2 (rule 1) for flows (table 610 and 620):

“Gold can be a financial asset only for the central bank or the central government. Purchases (sales) of monetary gold are recorded in the financial account of domestic monetary authority as increases (decreases) in assets, and the counterparts are recoded as decreases (increases) in assets of the rest of the world.”

“ Transactions in SDRs are recorded in the financial accounts of the monetary authorities and the rest of the world, respectively.”

2.2. Stocks

9. According to SNA § 13.3, “..A basic accounting identity links the opening balance sheet and the closing *balance sheet for a given asset*:

(a) *The value of the stock of a specific type of asset in the opening balance sheet;*

plus

(b) *The total value of the assets acquired, less the total value of those disposed of, in transactions that take place within the accounting period...;*

plus

(c) *The value of other positive or negative changes in the volume of the assets held ...;*

plus

(d) *The value of the positive or negative nominal holding gains accruing during the period resulting from a change in the price of the asset...;*

is identical with

(e) *The value of the stock of the asset in the closing balance sheet.”*

According to the SNA (§ 13.9), there are no liabilities outstanding with respect to monetary gold and SDRs.

2.3. Rest of the World (sector S2)

10. Regarding transactions in financial assets, it is stated in SNA § 14.134 and SNA § 14.135 that

- *“Transactions in monetary gold between residents and non-residents, i.e., transactions between the authorities and their counterparts in other economies, or with international monetary*

organizations, **are recorded on the left (changes in assets) side of the financial account.** A purchase by the rest of the world is recorded as a positive entry, a sale by the rest of the world as a negative entry. Monetary gold, like SDRs, (see paragraph 14.135 below), is an asset for which there is no outstanding financial liability.”

- and **“Transactions in SDRs, international reserve assets created by the IMF to supplement other reserve assets of official holders, also are recorded on the left (changes in assets) side of the financial account.”**

11. Regarding stocks, it is stated in SNA (§ 14.156) that the external assets and liabilities account (balance sheets of the rest of the world) *“should include, on the asset side, the cumulative net result of all transactions in monetary gold (sales/purchases) and SDRs. Also, it should be noted that the net result, or figures on the asset side (point of view of the rest of the world) may be negative, if the balance of accumulated transactions reflects net sales by the rest of the world”*.

12. This is confirmed in SEC (§ 8.77), where it is noted that the balance sheets of the rest of the world records on the asset side *“the total acquisitions less disposals between residents and non-residents units of monetary gold and SDRs”*

13. It is also repeated in the SNA, in § 14.156, that

“Monetary gold and Special Drawing Rights (SDRs) issued by the IMF are financial assets for which there are no outstanding financial liabilities.”

This is confirmed in BPM5, § 438: *“like SDRs, monetary gold is a reserve asset for which there is no outstanding financial liability.”*

14. In § 14.157, it is added that the financial assets and liabilities (stocks) included in the external assets and liabilities account are the same financial assets and liabilities as those included in the financial account (transactions)

15. In BPM5, § 461, it is written that the financial items of the international investment position, which corresponds to the balance sheet of the stock of external financial assets and liabilities, consist of claims on non-residents, liabilities to non-residents, as well as monetary gold, and SDRs.

3. Eurostat’s position on the recording of AF1 in financial balance sheets

16. In a document of March 2001, presented to delegates of the Eurostat’s Financial Accounts Working Group’s (*Conceptual questions: Treatment of monetary gold and SDRs*), Eurostat makes the following statements regarding the recording of AF.1 in the financial balance sheets:

“Concerning recording monetary gold in balance sheets, it is obvious that these assets have to be recorded only in balance sheet of the resident monetary authorities and in no way in position of Rest of the World.

There is also no reason to consider that it could be a "negative asset" held by non-residents. Apart the fact that the concept of "negative asset" is rather strange, such entry is not at all necessary in order to keep a consistency between net position of residents and net position of non-residents at a global level. In fact it reduces artificially (and in a misleading way) the latter.

It is obvious that in ESA95, there is no equality in absolute terms between net financial assets of total economy and net financial assets of Rest of the World. A positive amount of net financial assets does not at all mean that Rest of the World shows for the same amount a negative position vis-à-vis resident units. More precisely, there would be an algebraic difference equal to

monetary authorities' holdings of Monetary Gold and SDRs, the latter being included in this category and with the same effect as asset without corresponding liability.”

The document concludes that “ESA95 and SNA are very clear on this point”.

17. As a consequence, Eurostat set the following recommendations to its Member States:

- the F1 instrument must appear on the asset side of the S2 sector (with an opposite sign) in the financial account (which corresponds to rule 1, paragraph 1. above);
- on the other hand, the F1 instrument should not appear on the asset side of the balance sheet of the rest of the world (S2 sector) (which corresponds to rule 3, paragraph 1. above).

4. Current situation

18. In the OECD database of Financial Accounts (flow and stocks), all three possibilities occur. However, the recording of the F.1/AF.1 asset varies not only according to countries but also according to the type of table: countries do not apply indeed always the same principle for the transactions (tables 610 and 620) and for the stocks (tables 710 and 720).

19. The table in document STD/NAES/FA(2005)3 summarizes the current situation of the OECD database. As one can note, up to 2005, these rules were not systematically applied by European Union's countries (EU). However, they have recently been reminded to follow the Eurostat's recommendations set in 2001. These changes appear in the table with arrows.

4.1 European countries (European Union plus Norway)

20. Up to 2005, among EU countries, plus Norway, nine out of the seventeen for which data are available used to follow the rules recommended by Eurostat in 2001 (see below), namely:

- F1 recorded in S2, on the asset side of the financial account (transactions):

In tables 610 and 620 (flows), the value of *Monetary gold and Special drawing rights* (F.1) which is recorded on the asset side of the sector S121 (then S12 and S1), is reported, with the opposite sign, on the asset side of the S2 sector.

As a result, $\mathbf{B9F_{S1} + B9F_{S2} = 0}$

- AF1 not recorded at all (neither on the asset side, nor on the liability side) in the financial balance sheet (stocks) of the rest of the world:

In tables 710 and 720 (stocks), the value of *Monetary gold and Special drawing rights* (AF.1) which is recorded on the asset side of the sector S121 (then S12 and S1), is not reported at all in S2, neither on the asset side nor on the liability side.

As a result, the equation $\mathbf{BF90_{S1} + BF90_{S2} = 0}$ is not verified and the difference between $\mathbf{BF90_{S1}}$ and $\mathbf{BF90_{S2}}$ corresponds to the asset AF.1 of sector S1.

21. Among other EU countries, seven apply, in a uniform way, either rule 1 or rule 2 to both accounts (flows and stocks):

- four countries report F. 1 (AF.1) in the assets of S2 in both tables (Germany, Netherlands, Portugal and Spain);
- three countries do not report any monetary gold and SDRs in S2, neither on the asset side, nor on the liability side of none of the accounts (Austria, Finland and Italy);

22. One country (Belgium) recorded F1 on the asset side of the financial account (transactions) of sector S2, while in the financial balance sheet, AF.1 was recorded as a liability of the sector S2.

23. Five countries have recently modified their way of recording the instrument *Monetary gold and SDRs* in the financial balance sheet of the sector S2:

- Belgium, Netherlands and Spain now follow the rule recommended by Eurostat in March 2001, that is not to record AF.1 at all in the financial balance sheet of sector S2, neither on the asset side nor on the liability side;
- France and the United-Kingdom has moved in the opposite direction: while it used to follow the rule recommended by Eurostat, it now reports AF.1 on the asset side of the financial balance sheet of sector S2 (the same value as for sector S1, with an opposed sign).

24. Moreover, there are some inconsistencies for three countries:

- while Italy does not record Monetary gold and SDRs at all, neither on the asset side nor on the liability side, and neither in the financial account (transactions) nor in the financial balance sheet (stocks) of sector S2, the equality of the *Net financial transactions* (transactions tables) of both sectors S1 and S2 ($\mathbf{B9F}_{S1} = \mathbf{B9F}_{S2}$) is verified, which should not be except if F1 is included in another instrument, while the equality of the *Financial net worth* (stocks tables) of both sectors S1 and S2 ($\mathbf{BF90}_{S1} - \mathbf{BF90}_{S2} = \mathbf{AF1}$) is not verified, the difference being the value of AF.1 of sector S1, which is normal.
- for the Slovak Republic, the difference between the *Financial net worth* (stocks tables) of both sectors S1 and S2 ($\mathbf{B9F}_{S1} - \mathbf{B9F}_{S2}$) does not correspond to the value given for asset AF.1 as reported in sector S1;
- as for the United-Kingdom, while they now report AF.1 on the asset side of the financial balance sheet of sector S2, the total assets does not include the value of this asset; therefore there is a discrepancy between *Financial net worth* (stocks tables) of both sectors S1 and S2 ($\mathbf{BF90}_{S1}$ and $\mathbf{BF90}_{S2}$).

25. A comparison with the data transmitted within the framework of the Balance of Payments (BOP), and the International Position of Investments (IIP) made it possible to check that, for several European countries (Austria, Spain, Finland, France, Italy and Portugal), the value of the sum of the two headings 'Monetary Gold' (2.B.4.1) and 'Special Drawing Rights' (2.B.4.2) was strictly identical to the value of the instrument 'Monetary gold and SDRs' reported in the asset side of the S2 sector (with an opposite sign).

4.2. Non EU countries

26. As for the non European countries, the situation is the following:

One country (United States) follows the same method as Eurostat; however, the *Net financial transactions* (in flows) of both sectors S1 and S2 ($\mathbf{B9F}_{S1}$ and $\mathbf{B9F}_{S2}$) and the *Financial net worth* (in stocks) of both sectors S1 and S2 ($\mathbf{BF90}_{S1}$ and $\mathbf{BF90}_{S2}$) are not equal; however, equations are not verified.

Three countries (Australia, Canada and Korea) report *Monetary gold and SDRs* on the liability side of the S2 sector for both financial account and financial balance sheet.

- In Australia, in both tables 610 and 710, *Monetary gold and Special drawing rights* (F.1/AF.1) is recorded on the asset side of the sector S121 (then S12 and S1); the same value is reported with the same sign, on the liability side of the S2 sector

As a result, both equations $\mathbf{B9F}_{S1} + \mathbf{B9F}_{S2} = \mathbf{0}$ and $\mathbf{BF90}_{S1} + \mathbf{BF90}_{S2} = \mathbf{0}$ are verified

- In Korea, in both tables 610 and 710, *Monetary gold and Special drawing rights* (F.1/AF.1) is recorded on the asset side of the sector S121 (then S12 and S1); the same value is reported with the same sign, on the liability side of the S2 sector

As a result, while in table 610, the equation $B9F_{S1} + B9F_{S2} = 0$, it is not the case in table 710, where $BF90_{S1} + BF90_{S2} = 0$ is not verified as it should be because the shares of holder side are recorded at market value or fair value, and the shares of issuer side are recorded at face value.

- In both accounts, Canada includes *Monetary gold and SDRs* on the liability side of S2 in F7 – *Other accounts payable*. As a result, both equations $B9F_{S1} + B9F_{S2} = 0$ and $BF90_{S1} + BF90_{S2} = 0$ are verified.

In Japan, up to 1999, *Monetary gold and Special drawing rights* (F.1/AF.1) was not recorded separately in none of the tables 610 and 710, neither for S1 nor for S2: it was included in the instrument *Other accounts receivable* (F.7/AF.7) on the asset side of the sector S1; its counterpart was included in the instrument *Other accounts payable* (F.7/AF.7) on the liability side of the sector S2.

As a result, both equations $B9F_{S1} + B9F_{S2} = 0$ and $BF90_{S1} + BF90_{S2} = 0$ were verified. As from 2000, transactions in *Monetary gold and Special drawing rights* (F.1) are reported separately in the account ‘Other Changes in Volume’ and split between S12 and S1311; their counterpart is reported on the asset side of S2 (with an opposite sign) in this same Account of Other Changes in Volume. As for stocks, *Monetary gold and Special drawing rights* (AF.1) is reported on the asset side of both sectors S1 (split between S12 and S1311°) and S2 (with an opposite sign).

As for Mexico, for which only financial accounts (transactions) are available, it does not record any *Monetary gold and Special drawing rights* (F.1) separately but includes it in the F29 instrument – *Other deposits*, on the asset side of both sector S1 and sector S2 (same value with an opposite sign); as a result, $B9F_{S1} + B9F_{S2} = 0$.

5. Conclusion

27. In order to improve the comparability of financial accounts and financial balance sheets of OECD countries, it is important that the same rule is applied by all countries. It is also important that the option which will be retained corresponds to the definitions and recommendations of the SNA, as much as possible. If not the case, it should be explained so that users of these accounts understand why there is no consistency between the *Financial net worth* of the *Total economy* sector ($BF90_{S1}$) and of the *Rest of the world* sector ($BF90_{S2}$).

Annex 4: Reporting of the asset 'Monetary gold and Special drawing rights (SDRs)' (continued)*Conceptual questions: Treatment of monetary gold and SDRs***document presented at Eurostat's Financial Accounts Working Party, 15-16 March 2005****How to record in ESA95 flows and stocks for Monetary Gold and SDRs?***ESA95 provisions*

1. In ESA95, monetary gold is defined by reference of its holder, i.e. "monetary authorities" that are in charge of managing "foreign reserves". (§ 5.26)
2. As in SNA, monetary gold, like SDRs, is an exception to the principle that a financial asset is also a liability. (§ 5.25)
3. In other words, monetary gold and SDRs are recorded in any balance sheet only on the assets side. By nature, these instruments gold cannot be recorded on the liability side of any economic agent. For instance, holding gold does not imply for any economic agent commitments as a counterpart. Under these conditions, transactions in monetary gold "always involve changes in ownership of financial assets. (§5.25)
4. It is similar for SDRs that are not at all considered as a debt of any countries, in spite of the fact they can be used in some international monetary transactions.²
5. Thus, in tables 6 and 7 of the official transmission programme, there is no line for monetary gold and SDRs on the liability side.
6. In addition, by nature, transactions on monetary gold and SDRs cannot involve other units that those that are defined as monetary authorities. In all EU countries, except one, it is the Central Bank.
7. Under these conditions, transactions on monetary gold and SDRs may only occur with monetary authorities included in the Rest of the world.
8. In this case, ESA95 specifies in 5.29 that any change in holding of monetary gold and SDRs has a positive or negative counterpart entry in "net occurrence of financial assets" for the Rest of the World.

Recording transactions on the Gold Market

9. For several years some central banks have started selling a part of their gold reserves on the market, for quantities that are not negligible. These transactions are achieved though specialised entities, generally with an obvious financial status but not exclusively.
10. One must assume that the counterpart purchaser on the market normally is not a monetary authority.

² SDRs were created in the sixties in order to face a possible shortage in international liquidities. They are distributed to countries according to an international agreement through the International Monetary Gold. When Members of the Fund are "granted" by an allocation of SDRs, which is in fact very infrequent, the appearance of such assets is recorded in the national accounts as an "other change in volume", no transaction occurring between institutional units and the Rest of the World.

11. In chapter 6, §6.32 mentions explicitly that purchases or sales of monetary gold directly from/to other monetary authorities are classified as transactions in monetary gold because the effect is only a change between components of foreign reserves. They are not recorded as transactions in all other cases. As soon as gold is not held by a monetary authority, so not included in foreign reserves of a country or monetary zone, it is no more monetary gold.
12. "Directly" should refer rather to bilateral transactions between central banks (whatever the agreed price), including "off-market" transactions, as carried out by the IMF under the HICP initiative.
13. In this case, gold offered on market should be no more considered as monetary gold but as non-monetary gold, recorded in ESA95 as a non financial asset under the category "valuables" (AN13), sub-category "precious metals and stones". It means that there is beforehand a demonetisation process that is described in ESA95 in 5.31 and in 6.32.
14. No transaction should be recorded in the financial account as the change in monetary gold holdings gives rise to another flow in the "other change in volume account".
15. In parallel, there should be an entry in valuables. Of course, if the sale occurs during the same period there is no need for recording something in the capital account as transactions on non-financial assets. It will only appear the reduction of Monetary Gold reserves through another change in volume.
16. On this point § 6.32 specifies clearly that "all other sales, including those to financial intermediaries or via an organised gold market must be recorded as sales of valuables preceded by a classification change."
17. However, in some cases, sales of monetary gold on international market are managed through the Bank for International Settlements in Basle, who receives a specific mandate. BIS is to be considered as a monetary authority, according to ESA definition in §5.27. In some occasions, BIS has been acting for stabilising exchange rates or has helped some central banks in trouble with their exchange position.
18. For simplicity, one should admit that there is in a first step a kind of transfer of Gold between two monetary authorities that has to be recorded as a financial transaction, only on the assets side, with a nil result for the total of the line.
19. As a conclusion, it should be stressed that any change in the amount of gold reserves that is not due to change in price should not be automatically off-set in the financial account by an opposite entry for the Rest of the World. The exact conditions of the change in stocks are to be taken in consideration. Normally such information should be easily available.

Recording AF1 in balance sheets

20. Concerning recording monetary gold in balance sheets, it is obvious that these assets have to be recorded only in balance sheet of the resident monetary authorities and in no way in position of Rest of the World.
21. In case of transactions without demonetisation, a decrease in resident holdings of the Central Bank is effectively an increase in holdings of a monetary authority in Rest of the World. The latter has not been recorded as such in the system. Only assets on resident units are taken in account. In this case, there is no increase of resident liabilities, which would mean that this monetary gold should be recorded on the liability side of the resident Central Bank.

22. There is also no reason to consider that it could be a "negative asset" held by non-residents. Apart from the fact that the concept of "negative asset" is rather strange, such entry is not at all necessary in order to keep a consistency between net position of residents and net position of non-residents at a global level. In fact it reduces artificially (and in a misleading way) the latter.

23. Transactions with non-residents cannot be neutral concerning the consistency mentioned above. For resident, any direct sale or purchase of monetary gold is just a change in assets structure. For instance, in case of sale, cash (generally deposit in a foreign Central Bank) is substituted to monetary gold and "net financial assets" is unchanged. There is no impact on net borrowing/net lending because of the positive entry in financial transactions of Rest of the World that offsets the increase of liability towards residents.

24. But, in the sector Rest of the World, only the increase of liability due to cash is recorded, meaning a change in "net worth" (fully comparable to "net financial assets" as non financial assets held by non residents are of course not recorded). Clearly, it is a source of distortion at the level of balance sheets.

25. In case of demonetisation, in a first step, there is an effect on net financial assets of residents that has no counterpart for non-residents. However, as gold is now included in valuables, there is no change in "net worth" of total economy. But this demonetisation is a provisional stage and the proceeds of the sale will give rise to an increase in financial assets held by residents. Nevertheless, it may happen that a part of the sale is realised with other resident agents and, so, the final change in financial assets structure is not nil.

26. In this case, there is an impact on net borrowing/net lending through the negative entry in the capital account for the sale of valuable, with a counterpart in the financial account under the form of an increase of liquidity holdings.

27. In addition, we must take in account the effect of revaluation of monetary gold as another source of distortion between the resident/non-resident balancing item "net financial assets".

28. Thus, it is obvious that in ESA95, there is no equality in absolute terms between net financial assets of total economy and net financial assets of Rest of the World. A positive amount of net financial assets does not at all mean that Rest of the World shows for the same amount a negative position vis-à-vis resident units. More precisely, there would be an algebraic difference equal to monetary authorities' holdings of Monetary Gold and SDRs, the latter being included in this category and with the same effect as asset without corresponding liability.

ESA95 and SNA are very clear on this point

29. There is an example in ESA95, pages 176-177 in the hard English edition. It is fully similar to the example given in SNA (pages 288-289).

30. In closing balance sheet, total economy shows a balancing item "net financial assets" for +547 (7522 - 6975).

31. It is not equal, with an opposite sign, to the corresponding balancing item for Rest of the World as "net financial assets" is +242 (690 - 388).

32. The total gives 789, to be compared to 788 as holdings of monetary gold and SDRs.³

³ There is in this example a difference of 1. A proposed reason is that this amount has been misplaced in change of balance sheet for Rest of the World.

Annex 5: Non allocated sector

Unallocated sector: the practice in the Norwegian Financial Accounts - FINSE⁴

**Note by Torbjørn Cock Rønning
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Introduction

1. Norges Bank (the central bank of Norway) releases financial and monetary statistics on a monthly and quarterly basis. Among the statistics are quarterly financial accounts for all sectors, which are compiled in the database system FINSE (FINancial SEctor accounts). In FINSE the institutional sectors are defined according to ESA95. In addition there exists an 'unallocated sector' (UAS). This paper aims at explaining how the UAS arises and how it is treated in FINSE.

Unallocated sector: general compilation method in FINSE

2. In the compiling process in FINSE stocks are first balanced. More than one source may be available for some stock variables. A selection among the various series is made for each asset relationship according to the judgement of the quality of the sources. The most important choice is between creditor and debtor information. For instance, data on loans from banks to the central government (CG) are available from both bank accounts compiled by Norges Bank and the CG accounts compiled by Statistics Norway. The first has monthly frequency with a time lag of one month while the latter has yearly frequency with a time lag of one year. In choosing between the two sources, the first is therefore preferred. This kind of selection is done for all asset relationships. The total incurrence of outstanding loans reported by the CG accounts is still kept and extrapolated⁵. The difference between the sum of the selected series and the sum reported by the CG becomes a UAS series. This is done to avoid discrepancies on net lending between the capital accounts and the financial accounts in FINSE⁶. The procedure described above is a general compilation method in FINSE. The total incurrence of liabilities and the total acquisition of assets from almost all sector accounts are kept in the balancing process.

3. Table 1 illustrates how loans from the UAS to the CG appear in the balancing process. It shows that on primary series the CG accounts are the preferred source for the series; loans from non-financial corporations, loans from the CG itself and loans from the rest of the world. Counterpart information is used for loans from the financial sector. The sum of the preferred primary series deviates from the total according to the CG accounts. The difference is named an unallocated series for loans taken by the CG.

⁴ This paper is written by Torbjørn Cock Rønning, economist with the Statistics Department in Norges Bank.

⁵ The extrapolated series follow the same pattern as the sum of the primary series.

⁶ The capital account and the balance sheet (input FINSE) for CG are compiled by Statistics Norway and net lending according to the two statistics is balanced.

Table 1: Balancing the central government's total incurrence of loans in FINSE

Series	Source		Preferred data
	CG	Others	
Loans from non fin. corp.	3		3
Loans from the CG	142	-	142
Loans from the rest of the world	382		382
Loans from the financial sector	64	61	61
Loans from the unallocated sector	-	-	3 (residual)
Sum	591	-	591

Some specific conditions

4. The unallocated sector series versus the rest of the world have already arisen outside the balancing system in FINSE⁷ and are kept in the balancing process. The main source for the rest of the world sector in FINSE is the balance of payments data. Up to 2005 Norway has had a compilation system often referred to as an international transactions reporting system (ITRS) for the financial accounts of the balance of payments statistics. Flaws in the reporting system have produced large unidentified transactions and large statistical discrepancies between the current accounts and financial accounts. Technically, consistency between the two statistics is achieved by means of an unallocated sector, where the deviations between domestic sectors data and balance of payments data are recorded.

5. From 2005 Statistics Norway has implemented a survey system to collect data for the balance of payments and financial accounts. (Norges Bank will keep the responsibility for the financial sector's domestic and foreign transactions.) In the new system, errors and omissions in balance of payments data are expected to be smaller, thereby reducing the unallocated sector in FINSE. In the transitional period, temporary corrections to adjust for flaws in the data will affect the unallocated sector.

6. Norges Bank receives monthly and quarterly data⁸ from The Norwegian Central Securities Depository (VPS) on shares and securities for use in FINSE and other statistics. These data have sometimes an unallocated issuer or holder, sometimes even both. This happens because some corporations have not yet been assigned sector codes by the VPS. These series are used crude in FINSE and contribute on a moderate scale to the unallocated sector.

7. Yearly accounts for the public non-financial corporations are available with a time lag of two or three years. In keeping with to the general compilation methods in FINSE, the total liabilities and debt from these sources are used in FINSE to avoid discrepancies vis-à-vis the capital account⁹. The primary series are mostly based on counterpart information from financial corporations and VPS data. This produces large amounts unallocated series versus these corporations. A possible explanation could be that the public non-financial corporations have problems distinguishing different kinds of financial instruments in their reports to Statistics Norway, but also that the counterpart sources have problems distinguishing between public non-financial corporations and local and central government.

⁷ The rest of the world sector has its own satellite system outside the FINSE system.

⁸ Stocks and transactions

⁹ The capital account and the balance sheet (input FINSE) for public owned non-financial corporations are compiled by Statistics Norway and net lending according to the two statistics is balanced.

Transactions and revaluations¹⁰

8. Input on transactions and revaluations is not complete in FINSE. For each asset relationship, revaluations and transactions are calculated by using changes in the balanced stocks from one period to the next, combined with input on transactions and revaluations. The residual¹¹ in this calculation is put on either transactions or revaluations based on a judgement for each asset relationship. For most of the unallocated sector series, no input on transactions and revaluations exist and the residual is most often put on transactions.

Treatment of unallocated sector

9. FINSE is available for public use. The household sector including the NPISH¹² sector is published on the Internet on a quarterly basis. In these versions the UAS is shown explicitly. In the transmission of FINSE-data to Eurostat¹³ and the OECD, the UAS and the private non-financial corporations are combined. The private non-financial corporation sector is the most incomplete sector in FINSE with almost no direct sources. The sector is thus mostly constructed by counterpart information. The sum of the unallocated sector and the private non-financial corporation sector in FINSE is more in accordance with the private non-financial corporations sector in the capital account. An unfortunate consequence of the summing up is that it results in series on stocks with negative amounts. This happens when the numerical value of negative series on the UAS exceeds the value on corresponding series in the private non-financial sector.

10. A reallocation of the UAS after the balancing process, instead of adding it to the private non-financial corporation sector, is not attempted. Instead effort is put on minimizing the UAS. If series on the UAS with large amounts emerge, this functions as a quality alert and is closely looked into. Formal accounting rules, which determine accepted levels for the discrepancies in FINSE, have not been drawn up. An accepted level is settled on the basis of judgement in each separate case. Keeping the UAS visible is also one way of being transparent. Users are then capable of evaluating the degree of confidence that can be attributed to the data.

References

“*Quarterly financial accounts - Norges Bank*”

¹⁰ All changes in stocks except transactions – FINSE has several subcategories of revaluations

¹¹ Residual = changes in stocks - input on transactions - input on revaluations

¹² NPISH – Non-Profit Institutions Serving Households

¹³ One version of this report is also published on the Internet on <http://www.norges-bank.no/front/statistikk/en/finsektbal/>

Annex 5: Non allocated sector (continued)

Discrepancies in the SNA – Financial Account and Balance Sheet Account

Note by Patrick O’Hagan
Statistics Canada – Income and Expenditure Accounts

The discrepancy issue

1. **SNA93** presents a complete and conceptually sound model for classifying and measuring macroeconomic activity and positions. However, for the most part, this model assumes that economic and financial activity can be measured without error. In practice, macroeconomic estimates of GDP, saving-investment, sector account flows and financial instrument transactions/positions are measured with error. Official SNA of the various OECD countries handle measurement error in different ways. In most cases, statistical errors or discrepancies are a standard part of country SNA component accounts.
2. However, in the OECD SNA93-based tables, measurement error is not explicitly accounted for. This leads to two possible problems. First, country compilers of data might chose to allocate discrepancies, so as to eliminate these from OECD submissions. This could lead to differences between published country data and published OECD data. Second, country compilers might not adjust the errors, with the result that imbalances can arise in OECD data tables.
3. This issue has come up in discussion at the last two WPFA meetings. Last year, Canada was asked to prepare a short note discussing the nature of measurement error in the *Financial Account* and *Balance Sheet Account*, with reference to the Canadian SNA.

Sector Measurement error

The flow of funds model

4. In some countries, including Canada, the *Financial Account* is part of a larger integrated database which includes the *Capital Account*. These accounts together, are the *Capital and Financial Account (CFA)*. The CFA is an accumulation account which displays the transactions-based changes in wealth. It is also commonly referred to as the *Flow of Funds Accounts (FFA)*, which provides a summary of the sources and uses of funds in the economy.
5. Countries that produce the FFA/CFA have to deal with the issue of sector measurement error. In Canada, this is the most significant dimension to measurement error. Generally speaking, sector errors arise due to the fact the sources and uses of funds do not necessarily match in certain sectors of the economy, largely arising from the varied sources of data used in the construction of the SNA component accounts detail. When this occurs, the sector net lending (surplus/deficit) balance of the *Capital Account* cannot be reconciled to that of the *Financial Account*. The difference is measurement error and is often referred to as *Discrepancy*.

Sector discrepancies

6. The errors in the institutional sectors of the economy largely reflect the fact that sector incomes, outlays, capital expenditures and financial transactions are compiled from a wide variety of surveys and other sources of data. As a result, it is not possible to construct a fully consistent set of sector account

flows. In this generic example, the measurement errors for each sector are reflected in the *Discrepancy category* (Table 1, line 16).

7. For example, the economic and financial activity of the household sector is compiled from numerous sources of information, including:

- Labour income which is largely based on a combination of monthly household surveys, establishment-based business administrative payrolls data, tax data (with a lag);
- Personal expenditure which is largely based on establishment-based monthly retail trade survey and annual household survey data as well as various other sources.
- Financial transactions which are largely based on counterpart entry data from enterprise-based surveys and administrative/regulatory data for some categories, while other instruments are residually-derived.

8. In this case, it is easy to understand how measurement error can arise, such that sector sources and uses of funds cannot fully reconcile. Note the resulting differences (Table 1 lines 5 and 6) in the net lending and borrowing estimates from the *Capital Account* (NLBCA) and *Financial Account* (NLBFA).

Saving-investment discrepancy

9. The *Capital Account* includes the national accounts' saving and investment flows for the sectors of the economy. At the matrix total level, aggregate saving must equal aggregate investment however it typically does not. This measurement error largely arises due to the fact that different sources of data¹⁴ are used for the components of GDP expenditure and GDP income. The gap, or discrepancy, between aggregate saving and investment is brought into balance by adding $\frac{1}{2}$ of the difference to the lower of saving or investment and subtracting $\frac{1}{2}$ of the difference from the higher of saving and investment¹⁵.

10. This difference between the two measures is allocated to the discrepancy column in order to close the **FFA-CFA** matrix. The **discrepancy column** (Table 1, column 7) is sometimes referred to more generally as the **un-allocable sector**, though this construct is not an institutional sector. Notably, the balance in this column yields a second type of sector error.

¹⁴ For example, enterprise-based survey data, establishment-based survey data, household survey data, administrative data, etc.

¹⁵ This saving investment gap reflects the measurement error between GDP income-based and GDP expenditure-based.

Table 1: Flow-of-Funds Account

	FIN CORPS	NONFIN CORPS	GOVT	HH+NPISH	ROW	DISCREPANCY	MATRIX TOTAL
CAPITAL ACCOUNT							
1. Saving	5	30	-5	50	15	+5	100
2. Investment	5	50	10	40		-5	100
<i>NLBCA</i> (1-2)	0	-20	-15	10	15	10	0
<i>NLBFA</i> (3-4)	0	-30	-10	20	20	0	0
FINANCIAL ACCOUNT							
3. Asset flows	150	30	0	80	40		300
A: Deposits	...	...	...	...	...		...
A: Debt	...	...	...	...	...		...
A: equity	...	...	...	...	...		...
4. Liab. flows	150	60	10	60	20		300
L: Deposits	...	...	...	...	...		...
L: Debt	...	...	...	...	...		...
L: Equity	...	...	...	...	...		...
<i>Discrepancy</i>	0	10	-5	-10	-5	10	0

Summary of FFA/CFA sector errors

11. In summary, the **FFA/CFA** framework would normally have sector discrepancies (which balance the sector accounts) and the discrepancy (which reconciles aggregate saving to investment). For the sum of all sectors (including ROW), all errors sum to zero. In Canada, the sum of the sector *Discrepancies categories* plus the *Discrepancy column* account for all of the measurement error.

12. Sector measurement errors contain useful information, in particular with reference to their size, sign, and trend-cycle movements. Further, measurement errors are not independent of each other, as implied by the **FFA/CFA** matrix structure. For example, the saving-investment error arises from the fact that the sector estimates cannot be brought into line, when summed for the economy. An allocation of the saving-investment discrepancy to the domestic sectors would reduce these sector errors. As another example, the discrepancy in the non-resident sector (BOP net errors and omissions) largely reflects non-matching transactions between non-residents and corporations. Reducing one of either of these sector discrepancies with improved data would clearly help reduce the other.

Link to the Balance Sheet Account

13. Notably, the corresponding Canadian *Balance Sheet Account* matrix does not typically contain sector errors. This means that any measurement errors fall into sector estimates of net worth. The economy-wide net worth (including that of the non-resident sector) is brought into line with the economy-wide measure of non-financial assets. This implies that, in reconciling stocks and flows in the *Other Changes in Assets Account (OCA)*, sector measurement errors should be taken into account. However, discrepancies (are also not currently featured in **SNA93 OCA**).

Asset-liability category/instrument error

14. The other dimension to measurement error in the *Financial Account* framework is asset-liability category/instrument error. These also exist in the above noted more comprehensive framework of

FFA/CFA¹⁶, but are much simpler to illustrate separately. Separate illustration of the instrument discrepancies allows for a transparent link to the OECD financial accounts tables.

15. Some OECD countries only produce a FA and a financial BSA. In fact, since OECD tables currently measure only financial assets and liabilities (BSA) and associated transactions (FA), the issue of measurement errors in this environment is a key issue for the WPFA.

Financial account instrument errors

16. *Financial Account* instrument discrepancies can arise due to differences in the quality of data by instrument and by sector. Data sources may be such that it becomes difficult to set a control total on either side of the matrix. If this is the case, compilers may opt to let the sum of sectors' asset-side and liability side totals differ, by using an instrument discrepancy entry to balance. Other reasons for making use of an instrument discrepancy can include:

- Breaks in the series due to significant source data changes (e.g., new survey, survey re-design);
- Different definitions for instruments between the asset side and liability side, where one side is presented gross (e.g., of float for deposits) and the other side is presented net (e.g., of deposit items in transit);
- Different approaches to measurement and/or valuations between the asset side (e.g., balance sheet changes for securities) and the liability side (e.g., debt inventory system for securities);

17. In Canada, instrument discrepancies are not a significant part of the *Financial Account*. The reason for this is that the FA matrix is compiled using a control total for financial instruments, either on the asset or liability side. The control total for each instrument, whether on the asset side or the liability side, is determined by a judgmental assessment of the accuracy of the data. This assessment is not as subjective as it may appear. For example, with deposits we begin with a control total deposit liabilities from the deposit-taking institutions, which are dominated by the chartered banks. This total, along with a “from whom” supplementary bank reporting allows us to assign liability-matching deposit assets to the sectors of the economy.

18. Table 2 below is a subset of Table 1, containing only the financial transactions articulated in more instrument detail. It also includes the total National Economy sum of domestic sectors that is a feature of the OECD tables. Further, as with Table 1, it includes (i) a *Discrepancy column* (un-allocable sector) to handle imbalances; and (ii) a matrix total so as to illustrate that all financial transactions are accounted for, including any measurement error.

19. The generic example below illustrates an occurrence of an instrument discrepancy in Canada that arose during a period of substantial change in bank reporting a number of years ago. The control total liability for foreign currency deposits flows is net of “items in transit”. However, on the asset side, estimates for foreign currency flows include float. It was decided to bring the assets and liabilities into balance by allocating a “float” item to the *Discrepancy Column* (Table 2 Line 4), in order to remove this element from the (then) residually-derived foreign currency deposit flows of the household sector.

¹⁶ The saving-investment measurement error is an example of a category error, articulated in Table 1.

Table 2. Simplified Financial Account: OECD Table 1.a

	FIN CORPS	NONFIN CORPS	GOVT	HH+NPISH	TOTAL (NAT'L) ECON	ROW	DISCREPANCY	MATRIX TOTAL
Asset flows	151	32	1	80	264	41	-5	300
A:Deposits	5	10	-5	45		-5		50
A:Fgn.Dep	16	12	6	10		11	-5	50
A:Debt	70			10		20		100
A:Equity	60	10		15		15		100
Liab. flows	150	60	10	60		20		300
L:Deposits	50							50
L:Fgn.Dep	40					10		50
L:Debt	40	-10	10	60				100
L:Equity	20	70				10		100

Balance sheet account instrument errors

20. As noted above, while sector errors are not an element of either the *Balance Sheet Account* or *Financial Balance Sheet Account*, asset-liability imbalances are a feature of some countries' stock estimates.

21. The underlying causes of these imbalances are largely the same ones as those noted above with respect to the *Financial Account*. However, valuation imbalances between asset and liability sides of the SNA balance sheet are likely to play a significantly more prominent role in the *Balance Sheet Account*. In addition, the SNA93 the treatment of monetary gold and SDRs – an asset for which there is no corresponding liability -- likely results in instrument imbalances in some countries' balance sheet data, which may be addressed by the use of a *Discrepancy column*.

22. Table 3 below is identical in composition to Table 2, except that it represents the *Financial Balance Sheet Account*. In this respect, it contains only financial assets and liabilities. It also includes the total National Economy sum of domestic sectors that is a feature of the OECD tables. Further, as with Table 1, it includes (i) a *Discrepancy column* (un-allocable sector) to handle imbalances and (ii) a matrix total so as to illustrate that all financial assets are offset by equivalent liabilities, including any measurement error.

23. The generic example below, illustrates an occurrence of an instrument discrepancy arising from a difference in valuation between the asset and liability sides of the balance sheet matrix. Canada maintains 2 sets of SNA balance sheets --book value and market value. In the book value set, there is a substantial difference in the valuation of domestic investment in foreign shares, between the asset side (acquisition cost) and the ROW liability (IIP estimate at underlying book value). This matrix is balanced by the use of an instrument discrepancy, articulated in the *Discrepancy Column* (Table 3 Line 4).

Table 3. Simplified Balance Sheet Account: OECD Table 1.a

	FIN CORPS	NONFIN CORPS	GOVT	HH+ NPISH	TOTAL (NAT'L) ECON	ROW	<i>DISCREPANCY</i>	MATRIX TOTAL
Asset Stocks	1350	180	110	480	2120	180	-300	2000
A:Deposits	50	110	50	180		10		400
A:Debt	200	10	10	10		70		300
A: Equity	500	10	0	190		100		800
A: Fgn Equity	600	50	50	100	800		-300	500
Liab. stocks	500	850	100	50		500		2000
L:Deposits	400							400
L:Debt		150	100	50				300
L:Equity	100	700						800
L: Fgn Equity						500		500

Summary of instrument discrepancies

24. Instrument errors in the *Financial Account* do not exist in a vacuum. They are part of the larger error system of the *FFA/CFA*. As such, the net sum of any instrument errors in the *Discrepancy column* in Table 2 must also figure into the balance of the very same *Discrepancy column* in Table 1. Instrument errors also enter into the calculation of estimates of sector and national net worth in the *Balance Sheet Account*.

25. Instrument measurement errors contain useful information, as they highlight chronic problems and/or conceptual differences with certain *Financial Account* or *Financial Balance Sheet Account* data. Drift in the discrepancies over time provide a useful indication of changes in the accuracy of certain data over time. Discrepancies can also help assess the effectiveness of introducing asset-liability control totals for different instruments. Lastly, discrepancies can also help to set objectives in content revisions of survey source data and/or new approaches to obtaining source data.

Summary

26. The issue facing the OECD Statistics Directorate and the WPFA is how best to handle country *Financial Account* and *Financial Balance Sheet Account* measurement error in the OECD databases or, more generally, in international submissions.

27. It could be worth considering the introduction of a *Discrepancy column* (un-allocable sector) and a matrix total column in OECD tables. This would allow for an explicit accounting of any country asset-liability category-instrument error in a complete and transparent fashion. Further, it would likely resolve any imbalances in some countries' submissions that have resulted in some issues for the OECD Statistics Directorate. Finally, this approach also has the advantage of being set up to handle any *Capital account* errors in the event that the OECD *Financial Account* tables evolve to *Capital and Financial Account* tables for some countries at a later date.

Annex 5: Non allocated sector (continued)*The practice in Sweden and in United States***Sweden** (by Michael Wolf, National Accounts Department, Statistics Sweden)

1. In the Swedish National Accounts, some transactions are not allocated among sectors in part or at all. This goes for transactions D21, taxes on products and D31, subsidies on products and P2 of FISIM. These are not at all sectorized on one side in the accounts. D21 and FISIM are not allocated among uses (paying sector) and D31 is not allocated among resources (receiving sector). There is also a further difference which is not allocated and that is the difference between calculated taxes and subsidies (on products) in the supply and use tables making up GDP and the taxes and subsidies actually registered in the government accounts. This difference between what ought to be paid and actual payments could be view as part of the tax fraud.
2. The non-allocated transactions have generally been attributed to the sum of market producers but when it comes to break them down by sectors, it has been decided to choose one sector and it has thus been the largest one which is the non-financial corporations sector. For a large number of transactions this sector is residually calculated so this treatment is also logical from an accounting point of view.
3. Therefore, in the Swedish national accounts, the unallocated sector is included in S11 (Non-financial corporations). Because of moving the unallocated sector to S11, the capital account and the financial account data do not match as and there is a discrepancy (DIS) in sector S11.
4. The financial accounts on the other hand allows for discrepancies in net lending in relation to the outcome in the real accounts. Therefore, out of the above reason, no non-allocated sector is needed in the financial accounts either.

United States (by Susan Hume McIntosh, Federal Reserve System)

5. In the Flow of Funds Accounts of the United States, there is a column which shows the discrepancies at the level of instruments, sometimes referred to as the un-allocable sector by other countries: discrepancies are shown for a number of instrument categories, such as monetary gold and SDRs, foreign deposits, Fed. funds and security RPs, trade credit, taxes payable and miscellaneous claims. The net sum of all the discrepancies in the discrepancy column corresponds to the sum of the sector discrepancies (which reflect the difference between sources and uses of funds for each sector).
6. There is no residual lender or borrower for these categories. Instead, all available data for the lenders are summed on the asset side while all available data for the borrowers are summed on the liability side. The difference between these two totals for each applicable instrument is the discrepancy which is reported in the column 'instrument discrepancies' for that same instrument category.
7. There is no attempt to spread this discrepancy among the sectors, as it is felt that it provides useful information when compiling the accounts. In addition, the discrepancy column covers the difference between the NIPA income and the expenditure side measures of GDP, all of which is assigned to investment in the FOF.