OECD 국민계정 실무회의 참가결과 보고

OECD Working Party on National Accounts
Paris, 12~15 October 2004

2004. 11.

통 계 청
통계분석과

< 차 례 >

Ⅰ. 출장개요

1. 출장자 : 통계청 통계분석과 김경용 사무관

2. 출장목적 : 경제협력개발기구(OECD) 국민계정 실무회의 참가

3. 출장기간 : 2004. 10. 11～10. 17.

4. 출장지역 : 프랑스 파리 소재 OECD

5. 회의개요

1) 회의 주요의제

○ OECD통계위원회 산하 국민계정관련 공식조직 설립

○ 비시장 부문 생산성 측정방안

○ 생산성 분석을 위한 데이터의 제공요건에 관한 의결안건 처리

○ 연금기구 처리기준, 데이터베이스 측정, 원본과 복사본의 추계기준 등에 관한 93SAN 개정방향에 대한 토의

※ **국민계정 전문가회의** : OECD 회원국의 국민계정 작성기관의 실무책임자, OECD, EUROSTAT, IMF 등 주요 국제기구의 국민계정 전문가들이 1980년 이후 매년 1회 국민계정 매뉴얼 개정, 국민계정 추계 관련 제반 현안 사항 등을 논의하는 모임

2) 회의주관 : OECD 경제통계국 국민계정과

○ 의장 : Mr.Francois Lequiller(국민계정과 과장)

3) 회의기간 : 2004. 10. 12 ～10.15.

4) 회의장소 : OECD 본부(신관, 파리 라데팡스 소재)

5) 참가자 : OECD회원국 국민계정 작성기관의 담당 책임자, OECD, EUROSTAT, IMF 등 주요 국제기구의 국민계정 전문가 111명

○ 한국 : 통계청 : 통계분석과 김경용 사무관

한국은행 : 김양우 주재관(OECD 한국대표부), 국민소득팀 김영태 과장

Ⅱ. 주요 회의내용

1. 주요 의결안건 토의내용

1) OECD통계위원회 산하 국민계정관련 공식 실무조직 구성 논의

○ 1980년부터 계속되어온 국민계정 전문가회의를 OECD 통계위원회 산하의 공식실무반으로 전환
- 향후 2년 임기의 의장 1명과 부의장 2명선출 예정

○ 주요 권한사항
- 국민계정시스템의 적합성과 비교성 개선 관련 조치
- 국제지침과 권고사항의 이행 촉진
- 통계계열의 적시 이용가능 조치 권장 및 OECD로의 신속제출 감시 등

2) 비시장 부문에 대한 영국 Atkinson 보고서 검토

○ 현재 정부 등 비시장 부문의 산출액은 투입비용으로 산출하고 있음. 이에 따라 생산과 투입의 비율로 계산되는 생산성의 변화를 계산할 수 없음. 이와 같은 문제점을 해소하여 비시장부문에 대한 생산성을 제대로 보여줄 수 있도록 교육, 보건서비스 등 분야를 중심으로 물량지표 등을 이용하여 산출액을 측정하는 새로운 방안 제시

- 물량지표로는 등록된 학생의 수 또는 학업성취도, 보건서비스를 받은 환자의 수 등이 이용될 수 있을 것임

- 여러 나라에서 측정(measurement)문제에 대하여 이의를 제기함에 따라 장기적으로 검토, 추진될 것으로 보임

3) 생산성분석을 위한 데이터의 제공요건 토의

○ 생산성 분석을 위한 취업자수, 연간 평균노동시간 등의 자료를 국민

계정 개념에 맞도록 조정(예를 들어 경제구역상 비주거(non-resident) 취업자의 제외)하도록 권장하고 특히 일부 국가에서 '직업(job)'기준'으로 OECD에 통보하는 취업자수 통계를 '사람(person)'기준으로 변경하도록 권장

- 우리나라의 경우 이미 '사람'기준으로 작성, 보고되고 있음

* 예를 들어 한 사람이 여러 직업을 갖는 경우 직업기준으로는 취업자수가 여러 개가 되지만 사람기준으로는 주된 직업 하나만 산정됨

○ 근로자 1인당 연간 평균 근로시간의 국가간 차이가 크므로 1인당 GDP보다는 근로시간당 GDP가 노동생산성 지표로 적합함

- 다만, 근로숙련도가 낮은 사람은 노동시장에 진입하기 어려운 구조의 국가(예: 프랑스)의 경우에는 근로시간당 GDP가 노동생산성을 측정하기 위한 이상적인 지표가 될 수 없으므로 이 부문에 대한 연구가 필요함

2. 기타 안건 토의내용

1) 연금 지급의무의 처리 기준 토의

○ 현행 1993 SNA에서는 기금형 고용주연금 지급의무에 대해서는 부채로 인식하고 있으나, 무기금형 고용주연금(unfunded employer pension schems) 지급의무를 부채로 인식하지 않음

- 기업회계와 국민계정간의 회계처리 방법상 괴리 발생
- 국가채무 과소계상 가능성 있음
- 향후 개정 SNA에서는 일반적으로 인정된 회계원칙에 부합하기

위해 무기금 고용주연금의 지급의무를 부채로 계상토록 변경할 예정

2) 무수익 대출자산의 IMF EDG* 보고서 검토

○ 무수익 대출자산을 그대로 명목가치로 기록함에 따라 현재 경제상황을 과도하게 낙관적(over optimistic)으로 보게되는 문제점이 있음
- 이를 시정하기 위하여 무수익 대출자산의 시가평가액을 반영하도록 SNA 개정 추진

* Electronic Discussion Group : 인터넷을 통한 전문가들간 논의 모임

3) 국민계정에서의 대손충당금 처리관련 사항 토의

○ 국민계정에서 대손충당금을 반영하는 별도의 계정을 만들자는 제안이 있었으나 미국, 호주 등 여러 나라 대표들의 반대가 있었음. 반영되기 어려울 것으로 보임.

4) 공공부문 계정과 민간부문 계정과의 조화 토의

○ 공공부문과 민간부문의 합자 벤처 또는 특수목적의 기구(Special Purpose Vehicles, SPV) 등의 경우에는 거래기록을 공공부문과 민간부문으로 비율배분하는 방안 등에 대하여 논의

5) 일반정부의 조세수입의 기록 기준 토의

○ 조세수입은 발생주의에 따라 산출물의 판매, 이전 또는 사용 등 경제활동이 일어난 시점에서 기록되어야 하며, 실제 납부시기와 반드시 일치하지는 않음
- 지불해야 할 조세금액의 기록을 기본으로 하나, 실제 징수 불가능한 금액부문을 정부조세수입에서 공제하도록 조정할 필요가 있음

6) 정부부문과 민간부문의 구분 기준 토의

○ 정부와 민간의 구분 기준으로서 '통제(control)'기준외에 '수혜(benefit)'기준 등을 추가하도록 개정 추진

- 예를 들어 공무원연금의 경우 통제 기준만으로는 정부에 포함되어야 할 것임. 그러나 수혜 기준을 추가하면 공무원연금의 수혜는 정부가 아니라 공무원이므로 정부부문에서 제외될 것임.

- 공무원연금은 이미 민간(금융)부문으로 포함되고 있음. 실질적인 변화는 없고 다만 SNA 매뉴얼을 보다 명확하게 한다는 데 의의가 있음

7) 공기업에 대한 정부지분에 의한 수익의 처리기준 토의

○ 정부가 지분을 갖고 있는 기업의 경우, 정부가 배당을 받지 않더라도 재투자수익으로 의제하여 정부의 수입(즉 소득)이 있는 것으로 처리토록 의제 추진할 것을 제안

- 캐나다 등에서 의제 처리 등에 따른 경제적 의미의 불명확성 등에 대해 의문을 제기하는 등 장기적인 검토가 예상됨

8) 소유권 이전비용 처리기준 토의

○ 비금융자산의 소유권이전비용은 고정자본형성으로 계속 처리하고 자산취득시 발생되는 소유권이전비용을 자산의 전체기간에 걸쳐 상각하기보다 보유기간 동안에 상각처리할 것을 권고

○ 소유권 이전비용 중 철거비용을 추정하여 보유기간 중 상각할 것을 제안.

- 예를 들어 원자력발전소의 경우 동 발전소의 철거 비용을 원자력발전소 운영기간 중에 상각하자는 제안.

9) 데이터 베이스의 측정기준 토의

○ 1993 SNA에서 규모가 큰(large) 데이터 베이스만을 고정자본형성으로 처리코자 하였으나 이 규정이 모호하므로 1년이상 사용예상되는 모든 데이터베이스를 고정자본형성으로 처리토록 하는 방안이 제시됨

- 데이터베이스의 정의과 관련하여 켄베라 Ⅱ그룹에서는 자가생산을 포함한 모든 데이터베이스, 데이터제공산업에 의해 관리되는

데이터베이스 등 4가지 유형을 제시했으나, 모든 데이터베이스를 포함하는 방안을 기본적으로 권고하였음

10) 생산계정에 자본서비스 항목 도입 검토

○ 생산계정에 고정자산, 재고, 토지 및 자연자산으로부터의 자본서비스의 가치(value of capital service)를 하위항목으로 나타내 주도록 권장.

- 자본서비스는 고정자본소모외에 고정자본수익(return on capital service) 등 추가요소를 포함하고 있음

○ 자본서비스의 가치가 생산계정에 반영되면 비시장산출물의 생산이 고정자본소모와 자본서비스 가치의 차액만큼 증대되어 GDP가 늘어나는 효과 발생

- 비시장산출물은 생산비용을 산출액으로 계상하고 있음. 이 생산비용은 피용자보수, 고정자본소모, 조세로 구성됨. 이 생산비용 중 자본재 기여분을 고정자본소모보다 포괄범위가 넓은 자본서비스가치를 포착하게 되면 생산비용이 더 크게 계상되고 결과적으로 산출액이 증대함.

- 반면, 시장산출물의 경우 산출액은 기본적으로 매출액을 기초로 포착되므로 자본서비스 도입에 따른 산출액의 변경은 없음

11) 원본과 복사본의 처리기준 토의

○ 93SNA에는 원본소유자가 다른 생산자에게 사용인가(licence)를 준 경우 인가받은 생산자는 사용대금(수수료, 로얄티 등)을 중간소비로 처리토록 되어 있으나, 이를 운용리스에 국한하여 적용시킬 필요가 있음.

- 즉, 운용리스가 아닌 경우는 사용인가(licence)를 원본의 전부 또는 일부 판매로 간주하여 고정자본형성으로 처리토록 개정할 필요가 있음

12) 분기 국민계정 데이터베이스관련 자료 조기 제공 요청

○ OECD에서는 회원국의 분기별 국민계정 자료를 DB로 구축하여 보 급하고 있으며 각국의 분기자료 공표와 동시에 해당자료 파일을OECD에 신속히 보내줄 것을 요청함

○ 해당분기말로부터 분기 국민계정 자료 공표시까지의 기간을 단축하려는 노력이 필요함

- 한국은 상기 기간이 53일로서 미국 30일, 스웨덴 36일, 일본 42일 보다는 늦은 편이지만 전체 OECD회원국 중에서는 빠른 순으로 상위 8위를 유지하고 있음

Ⅲ. 기 타

1. 본 회의에서는 93 SNA 개정을 위한 세부 쟁점에 대한 논의가 중점적으로 다루어 졌으며, 국제기구의 국민계정 개정관련 향후 업무추진 방향을 파악하는데 유용한 기회가 되었음

2. 향후 국민계정 작성에 있어 국제 비교성을 제고시키기 위해서는 국제기구 및 통계선진국의 국민계정 작성에 관한 정보를 습득함으로써 국민계정 작성관련 세계적인 흐름을 적시에 파악하도록 노력을 기울이는 것이 중요한 것으로 사료됨 끝.

붙임1. 회의일정 및 주제(Draft Agenda)

For Official Use **STD/NAES/A(2004)1**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

04-Oct-2004

English - Or. English

STATISTICS DIRECTORATE

STD/NAES/A(2004)1
For Official Use

National Accounts and Economic Statistics

WORKING PARTY ON NATIONAL ACCOUNTS

DRAFT AGENDA

To be held on 12-15 October 2004

Tour Europe, Paris La Defense
Beginning at 9.30 a.m. on the first day

English - Or. English

JT00170598

IMPORTANT

Delegates participating in the meeting should be advised that the security arrangements in force at the OECD include the obligation to present an identity document bearing a photograph. It is desirable that Delegates should be made aware of this requirement in order to avoid any difficulty in obtaining entry.

For the purpose of saving paper, during these meetings, papers copies of documents available on internet or OLISnet prior to close of business on 6 October will not be made available and we therefore advise you to download your own paper copies. Documents posted after 6 October will be prepared and made available during the meetings. Delegates are invited to bring with them the copies they receive through OLIS and Internet.

DRAFT AGENDA

OF THE 2004 OECD WORKING PARTY ON NATIONAL ACCOUNTS

Tour Europe - Salle des Nations
October 12 – 15, 2004

Morning: 9:30 a.m.-12:45 p.m. - afternoon: 15:00 p.m. – 5:30 p.m.

This year a large part of the meeting will be a joint OECD-UNECE meeting, devoted to the review of the SNA.

October 12 (Common day with Working Party on Financial Statistics)

For decision

1.	Establishment of the subsidiary body of the OECD committee on statistics (F. Lequiller, OECD)	STD/NAES(2004)8
2.	Minutes of the previous meeting (F. Lequiller, OECD)	STD/NAES/M(2003)1

For information

SNA review: financial issues. This session is a common OECD/UNECE session.

3.	Progress Report on the Review of the SNA by ISWGNA chair (C. Aspden, OECD)	---
4.	Pension schemes (A. Bloem, IMF)	----
5.	Report from the moderator of the IMF EDG on non performing loans (A. Bloem, IMF)	---
6.	The treatment of provisions in the SNA: issue paper: elements for the review of the SNA (F. Lequiller, OECD)	STD/NAES(2004)7
7.	Progress report: task force on financial services (A. Nordin, OECD)	---
8.	Conclusion and agenda of next WPFS (P. O'Hagan, chair of the WPFS)	---

Cocktail

October 13

For information

SNA review: general government accounts. *This session is the continuation of a common OECD/UNECE session.*

9.	Progress report from the chair of the Task Force on Harmonisation of Public Sector Accounts (J.P. Dupuis, OECD)	---
10.	Appendix on general government: recording tax revenue & tax credits (J.P. Dupuis, OECD)	STD/NAES(2004)9

11.	Government/public sector/private sector – delineation issues (G. Jenkinson – ONS)	STD/NAES(2004)10
12.	Accrual of earnings on equity stakes of government into public cormorations in the SNA (P. de Rougemont – Eurostat)	STD/NAES(2004)11

SNA review: non financial assets (Canberra II) *This session is the continuation of the common OECD/UNECE session. For information*

13.	Progress report of Canberra II group (C. Aspden, OECD)	---
14.	Ownership transfer costs (C. Aspden, OECD)	STD/NAES(2004)14
15.	The measurement of databases in the NA: draft issuespaper (N. Ahmad, OECD)	STD/NAES(2004)1
16.	The treatment of originals & copies in the NA: draft issues paper (N. Ahmad, OECD)	STD/NAES(2004)2

October 14

For information

SNA review: non financial assets (Canberra II). *This session is the continuation of a common OECD/UNECE session.*

17.	Cost of capital services: production accounts (N. Ahmad, OECD)	STD/NAES(2004)15
18.	General government (and other non market) assets: cost of capital services (A. Harrison, OECD)	STD/NAES(2004)16
19.	Mineral exploration (A. Harrison, OECD)	STD/NAES(2004)17
20.	Treatment of land improvements: issue paper (C. Aspden, OECD)	STD/NAES(2004)3
20.a	Classification issue: proposal for an ISIC aggregation structure (W. Cave, OECD)	STD/NAES(2004)18

National accounts data at the OECD *This session is an OECD session*

For information

21.	The new publication on general government accounts (J.P. Dupuis, OECD)	---
22.	Situation of annual National Accounts in the OECD database (M. Hainaut, OECD)	STD/NAES(2004)13
23.	Collection and dissemination of quarterly national accounts (M. Harary, OECD)	STD/NAES(2004)19
24.	The NAWWE project: progress report (C. Aspden, OECD)	STD/NAES(2004)20

International Comparability of Productivity measures

For decision

25.	Report of the UK Atkinson review panel on non market output (T. Atkinson, UK) – *Document only available on internet site.*	STD/NAES(2004)21

October 15

For decision

26.	Using National Accounts data for productivity analysis (F. Lequiller, OECD)	STD/NAES(2004)6

Open session: Supply and Use and Input – Output frameworks in the compilation of national accounts

For information

27.	Managing supply-use Benchmarking in the Australian National Accounts (C. Obst, ABS) Quarterly supply and use tables in the Australian National Accounts (C. Obst, ABS)	STD/NAES(2004)4 STD/NAES(2004)5
28.	Contribution by the BEA (S. Okubo, BEA)	STD/NAES(2004)22
29.	Software investment in the New Zealand National Accounts: progress report (J. Cope, Statistics New Zealand) Report on software (C. Aspden, OECD)	STD/NAES(2004)12

Room documents:

OECD Handbook on hedonics (J. Triplett, consultant for OECD)

Fab-less enterprises: room document" par Soli Peleg, CBS, Israel – STD/NAES/RD(2004)1

▪*▪*▪*▪*▪*▪*▪

For information:
Main items of the agenda of the first day of the Working Party on Financial Statistics (October 11, same room, 9:30)

The new financial accounts database and publication (M. Chavoix Mannato, OECD)

Pilot project on classification of households' financial assets (M. Chavoix Mannato, OECD)

Draft SNA-USA (Federal Reserve Board)

Institutional Investors, Bank profitability, Central Government Debt databases: progress reports (E. Bolton, I. Ynesta)

Repurchase agreements (J. Joisce, IMF)

붙임2. 회의록

Extract of Minutes of the WPNA meeting at OECD(12-15 October 2004)

Extract of Minutes of the WPNA meeting at OECD (12-15 October 2004)

Warning: This paper constitutes an extract of the future minutes of the October 2004 OECD Working Party on National Accounts. This extract only covers issues that are included in the forthcoming meeting of the AEG as items for decision. The objective is to circulate to the ISWGNA and AEG members the comments made by delegates on these particular items before the AEG meeting of December 2004. Other issues of the SNA review were discussed during the WPNA but they are not for decision of the AEG in December. Minutes of those issues will be circulated later.

Item 5. Non-performing loans

The paper for decision to the ISWGNA/AEG was presented by A. Bloem (IMF). A questionnaire was sent in July 2004 by the moderator of the EDG (Russell Freeman, IMF) and obtained 37 answers. Four options were offered:

1. Leave SNA as it is
2. Keep nominal value, but with mandatory memorandum items on market value
3. Market value in creditor accounts, nominal value in debtor accounts
4. Market value for both creditor and debtor, but with mandatory memorandum items on nominal value and interest arrears.

Options 1 received very little support, showing that a change of the SNA seems necessary to nearly all. Option 3 received very little support because it did not respect the principle of symmetry. Option 2 and 4 received significant support, with a small preference for Option 2. The paper implicitly proposes the AEG to choose option 2.

Austria underlined the necessity to contact ECB and BIS, as well as the banking community, on such an issue. Their opinion should be taken on board.

The Netherlands mentioned that it had voted for option 1. The delegate raised two questions: 1/ should we also record receivable / payable as what is proposed for loans? 2/ how do we collect information, banks being not very keen to disclose it?

Australia supported option 4, stating that they have enough information to estimate the fair value of loans, and accept applying this estimate to the debtors. He noted that there is no difference between option 2 and option 4 regarding the collection of data: both need to collect the value of loan impairments.

Canada did not select any of the options but would favour option 4. He expressed the need to define the term market value: if it is understood as nominal less accumulated provisions, then he would agree with this definition. Otherwise, asking to record loans at full market value would be difficult. He noted that all participants in the EDG accept to move from a legal basis of recording to an economical basis. The problems are with the symmetry (this is applying this impaired value to the debtor) especially for international loans. However, there can be simple presentational ways to resolve the problem while maintaining symmetry (adding a column in the financial accounts). In Canada, they have good information on loans and provisions from the lender side; they apply the net value for the lender and the debtor, in order to have a better value of net worth for both; however, the tables for international loans do not apply this rule for the debtors; so there is a "dual" approach of Option 4 in Canada. He finally expressed the view that the recognition of provisions for bad debt should be seen as the "accrual accounting of write-offs".

Eurostat expressed the view that the questionnaire's presentation of Option 4 was biased in the context of the "emotional debate" in the accounting world especially in Europe about the market valuation of loans.

Eurostat and the CMFB does not support the full market valuation (and as such he supports Canada's intervention on the definition of the value of impaired loans), but could envisage recording the loan net of provisions. He noted that ESA95 recommends to record loans at nominal value after write-downs (in the other changes of volume), and noted that there could be an interpretation of this sentence opening the way to the immediate recognition of net values for loans, as well as for accounts of receivable / payable. He reminded the audience that Eurostat has requested from the EDG a delay in order to clarify several items of the discussion, including the timing of the write-off, and the situation of restructuring agencies dealing with impaired loans. He noted that the TFHPSA recommended the SNA recording taxes expected to be collected, thus would not record taxes nominal on one side and payable on nominal on the other side. This issue is linked with the one on non performing loans.

Spain stated that they had both measures of loans, and has chosen option 2 rather than option 4 because they want to respect symmetry and also do not want to apply the impaired value to debtors. She stressed the fact that the measure of bad loans differ from country to country, depending on the degree of presence of bad payers. This will make the data difficult to compare.

ECB: has sent a paper to the EDG and supports option 2: there is no way not to respect the terms of the contract (nominal value) as long as there is no change by mutual agreement. Option 4 requires the recording of provisions, and has a risk of asymmetry.

France favored option 2, refusing dissymmetry in the financial accounts. Moreover, there is no room in France for full fair value (taking into account interest rate risks), loans having little tradability.

Japan explained that their financial accounts was built using option 4, with market value defined as nominal less provisions. Regarding cross border loans, option 2 might be seen as realistic.

USA has chosen option 2 in the name of symmetry, and because policy makers look more at the debtors position in the financial accounts, which would be unduly improved if we applied to them the impaired value. Users wishing to have the creditors' image can turn to supervisory data.

Denmark found at first option 4 attractive, but did not give sufficient importance to the debtor's viewpoint. Debtors can go bankrupt for not paying these loans and showing them as terminated in their accounts would bias their balance sheet. He supports those who say that the terms "market value" should not be used. His interpretation of the ESA, contrary to Eurostat's intervention, is that the write-off is the final one, not the provision.

OECD supported option 3, considering that option 2 would not bring any real change in SNA. Two issues illustrate this. The moderator proposes "compulsory memorandum items", but the status of this is not known. The moderator has not proposed any change to sentences like "loans can only have one single value (the nominal value)" in the SNA.

The representative of the moderator (IMF) closed the discussion with these four points: (1) he has noted that a general concern was to better define the notion of fair value or market value for loans, so he will ask clarification on this point to the moderator, (2) in his view the definition of bad loan could be loans that are unpaid after 90 days, (3) the value of a loan in the SNA will remain the nominal value, (4) the introduction of compulsory memorandum items is new, so this will be a change in the SNA, but it surely needs to be better defined.

Item 14. Ownership transfer costs

Charles Aspden (OECD) presented the draft issues paper for decision at the December 2004 ISWGNA/AEG meeting, which was prepared by Anne Harrison. All but three of those making an interjection expressed support for the proposals. The representative from Germany thought that it was inappropriate in principle to write off expected expenditures on disposal and termination before they occurred. The representative from the Netherlands expressed his concern, but said that "he could live" with the proposal. Most of the comments concerned the practicalities of the proposed treatment of termination costs, which is as follows:

> Terminal costs (e.g. de-commissioning costs of nuclear power stations, open cut mines) should be treated in the same way as COT on disposal, except that they are written off over the expected service life of the asset. However, when termination costs are unanticipated or cannot be predicted with reasonable accuracy then they can be written off as CFC immediately.

Speakers from the UK, US and Australia were all supportive of the preferred treatment, with some saying that anticipated terminal costs were often recorded on the financial statements of businesses. The representatives from Norway and the Netherlands considered that it would be difficult to obtain reliable estimates of terminal costs for such things as oil rigs and nuclear power stations and they envisaged using the fall back option of writing off the termination costs immediately that they are incurred.

The representative from Austria agrees on the principle but criticised the paper for not making it clear to which assets the COT related. He queried whether the treatment would differ depending on the underlying asset. The German representative noted that the current SNA recommends that the COT on produced assets should be recorded as part of the GFCF of the underlying asset, while the COT on non-produced assets is recorded separately as a produced asset.

The representative from Korea agreed with the proposal regarding installation costs in principle, but questioned whether these costs would ever be separately identifiable.

Charles Aspden responded as follows:

1. Only by writing off the expected costs of disposal and termination from the time of acquisition of the asset would the value of the net capital stock correctly reflect the market price of the asset. If the estimates of CFC excluded these costs then the resulting estimates of net capital stock would be overstated.
2. If approximate values of the termination costs of such valuable items as oil rigs and nuclear power plants are known it would be best to use them in order to get more accurate estimates of the market values of the assets on the balance sheet. Only when the termination costs are unexpected or could not be predicted with satisfactory accuracy should they be written off when they are incurred.
3. The COT proposals apply to both produced and non-produced non-financial assets. In the case of COT on land, the issue paper concerning land proposes that COT on land be combined with land improvements.

Item 15. The measurement of databases in the NA

Nadim Ahmad presented his paper for decision at the December 2004 ISWGNA/AEG meeting.

The representative from the US asked if any country was recording capital formation of databases.

The representative from the Netherlands was concerned about identifying which databases should be incorporated in the asset boundary.

Charles Aspden (OECD) then referred to the results of a recent survey (to be presented later in the meeting) which showed that the majority of OECD member countries responding to the survey did include databases in GFCF, but only one of them was able to separately identify them. He then made reference to his own experience in a national statistical office and observed that databases used in the compilation of the national accounts, which were frequently revised, should not be regarded as assets, but copies of population census data sold to users, which could be expected to be used for a number of years, qualified as assets. In his view the normal rules for determining what was an asset and what was not should apply.

The representative from Germany gave details of how estimates of own account GFCF of software and databases combined are derived for that country. She supported the recommendation that there be a sub-aggregate of GFCF of software and databases combined. However, she went on to propose that software and databases be both excluded from the asset boundary.

The representative from the Netherlands expressed his unease with the notion of statistical offices producing assets.

Nadim Ahmad agreed with the German representative that having a sub-aggregate of software and databases combined could alleviate estimation problems. He then went on to argue that databases holding national accounts data for revision analysis should be regarded as assets, as they met the standard requirements of an asset.

The representative from Austria expressed his support for the proposals.

Item 16. The treatment of originals and copies in the NA

Nadim Ahmad presented his paper for decision at the December 2004 ISWGNA/AEG meeting.

The representative from the UK expressed concern that the proposals were inconsistent with paragraphs 6.143 to 6.146 of the current SNA which deal with the production of originals and copies, noting that these paragraphs referred to the consumption, not capital formation, of copies. He also described a hypothetical situation involving the sale of a copy of a database and asked whether this was really capital formation. He then went on to argue that R&D output was in fact the creation of ideas that formed many intangible assets.

Nadim Ahmad responded by saying that copies rented for only a short time should not be treated as capital formation; only copies that were used repeatedly or continuously for more than a year should be recorded as capital formation.

Item 17. Cost of capital services in the production account

Nadim Ahmad presented his paper for decision at the December 2004 ISWGNA/AEG meeting.

The representative from Denmark said that while his NSI had derived estimates of multifactor productivity, and in doing so had derived estimates of capital services, he had reservations about including capital services in the core of the accounts:

1. the estimation of capital services was based on a number of assumptions, including a future rate of return, and although he understood that these same assumptions were implicitly made, if not explicitly made, in the calculation of consumption of fixed capital, the proposal would give great prominence to capital services;
2. there are different views about an appropriate production function; and
3. only seven (two by detailed activities) of the fifteen EU countries that existed at the beginning of 2004 are able to supply the estimates of GFCF required, which raises the question of how feasible the proposal is.

The representative from Australia expressed support for the proposal. The data could be very useful for analysts. Having capital services as an 'of which' item in the production account would give users a better

understanding of what contributes to GOS, and the size and sign of the residual could be very interesting. He mentioned however that the choice of the rate of return needed more consideration.

The representative from Germany supported the views expressed by the representative from Denmark. She noted that only a few EU countries were reporting estimates of capital stocks. Her experience from an EU CFC task force implied that most countries would be unable to derive satisfactory estimates of capital services from produced assets. She also had concerns about the likely quality of estimates of capital services from non-produced assets.

The representative from the Netherlands agreed with the views of his Danish and German colleagues. He thought there were too many problems: do we have all the assets which produce capital services? Do we have perfectly functioning markets? Why don't businesses rent all their capital? Should we use exogenous or endogenous rates of return? He preferred presenting the estimates of capital services and a split of GMI into its labour and capital components in a satellite account, and not in the core accounts.

The vice-chair (the representative from Lithuania) expressed her concerns about the difficulty of implementation in the core accounts, and preferred leaving this to a satellite account.

The Canadian representative expressed support for the proposals. She said that Canada had done a lot of work on this subject and had gained considerably from doing so. The publication of estimates of capital services had led to a lot of debate both within and outside Statistics Canada.. Questions had been raised about the capital estimates (capital services, capital stock and consumption of fixed capital) and GOS which had led to an improvement in the estimates.

The representative from New Zealand shared the concerns expressed by his colleagues from Europe. He was concerned that the proposal required NSOs to make more imputations using models. He supports the presentation of the proposed estimates in a satellite account.

The representative from the UK supports the idea of publishing the new estimates. In his view, a lack of data was not a satisfactory reason for opposing the proposals. However, he was ambivalent about presenting these estimates in the core accounts. He said that further explanation of how constant price estimates of compensation of employees needed to be provided, and how to choose a rate of return to capital needed resolution.

The chairman (OECD) said he thought numerical examples were required to show how the estimates should be derived.

Nadim Ahmad responded and made the following points:

1. Now that the issue on the measurement of depreciation had been more or less resolved (see the draft minutes of the Canberra II meeting 1-3 September, 2004), the Canberra II Group could proceed to develop numerical examples.
2. He stressed that the proposal s did not change any of the existing estimates in the accounts and that capital services would only be an 'of which' item. If countries were unable to derive estimates of capital services, or they lacked confidence in their estimates, they could choose not to present them in the production account.
3. He personally preferred the use of an exogenous rate of return. But he noted that a rate of return was needed implicitly, if not explicitly, to derive estimates of consumption of fixed capital and capital stock. In order to derive these estimates it was necessary to use a model. Although what we are proposing is to use the same model and assumptions to derive estimates of capital services, CFC and capital stock.
4. He noted that the old controversy between the two Cambridges was not really relevant because that concerned the aggregation of capital.

5. The derivation of constant price estimates of compensation of employees would be dealt with in a forthcoming paper.

In summary, it can be said that the views of representatives fell into three groups: group A who are opposed to the proposals, group B who are supportive of he proposals but with the caveat that the estimates be presented in a satellite account and not the core accounts, and group C who are supportive of the proposals without reservation.

Item 18. General government (and other non-market) assets: cost of capital services

Anne Harrison (OECD) presented her paper, the main thrust of which is that consumption of fixed capital be replaced by capital services (i.e. CFC plus a return to capital) for the purpose of estimating the value of non-market output. The paper is presented for decision at the December 2004 ISWGNA/AEG meeting.

In doing so she segregated the different assets owned by these producers into three categories:

1. of the type used by employees in the course of their work,
2. those which provide a service to the economy at large (e.g. roads)
3. those which provide a service to the community at large (e.g. city parks)

The representative from Canada supported the proposal in respect of the first two categories. She thought that a suitable rate of return for the second category of assets was the long-term government bond rate.

The representative from the Netherlands said that in imputing the value of output of non-market producers we had two options. The first was to value it as the sum of costs, in which case all the costs should be counted, including a return to capital. The second was to measure output as being equal to the value of welfare it produced, in which case a rate of return on capital should be excluded. He gave the example of a railway line to a small community that required a subsidy to provide its services. He asked which convention is best? He also noted that many countries do not have estimates of capital stock, which would allow them to calculate a return to capital, although they made estimates of CFC.

The representative from Australia gave his full support to the proposals. He argued that the SNA currently recommends that the value of non-market output should be valued as the sum of costs. Logically, it should include all costs, including a return to capital. He also noted the SNA's recommendation to use output indicators to measure the growth of non-market production at constant prices, and as this recommendation was more extensively adopted the valuation of output as the sum of costs at constant prices would become less of an issue. In his view, the SNA should provide strong conceptual guidance and the practicalities of implementation were a separate issue that should not be allowed to cloud issues of conceptual probity.

The Danish representative supported the proposal, but agreed with his Dutch colleague that few countries have the capital stock estimates to support the calculation of a return to capital.

The representative from the US supported the proposal. He agreed with Anne Harrison that it was justified from both the capital services point of view and an opportunity cost point of view. He noted that it was necessary to gain agreement on how the rate of return should be derived, but expressed confidence that this could be achieved.

The Swedish representative questioned how one could be in favour of using capital services to derive estimates of non-market output but be opposed to presenting capital services in the production account of market producers.

The representative from Germany confirmed her opposition to the presentation of capital services in the production account and the use of capital services to estimate non-market output.

The Danish representative said it was necessary to include a return to capital in estimating the output of non-market producers because it was one of the costs of production, but it was unnecessary to include capital services as an 'of which' item in the production account. In the market sector GOS covers all costs.

The Dutch representative said he agreed with this argument by the Danish representative.

The Swedish representative noted that one needs capital stock estimates to derive a return to capital. Therefore one could not use the lack of capital stock data as an argument for not presenting capital services in the production account of market producers and at the same time ignore this shortcoming when supporting the inclusion of a return to capital in the measurement of non-market output. He shared the view of the German representative in opposing the use of capital services.

In summary, there were two groups: group A supported the inclusion of a return to capital when summing costs to measure non-market output and group B who opposed their inclusion and favoured the status quo.

Item 19. Mineral exploration

Anne Harrison presented her paper for decision at the ISWGNA/AEG of December 2004.

The representative from the Netherlands supported the proposals. He noted that in the Netherlands some of the 'royalties' paid to the government were in effect part of taxes. Hence, he would need to talk to the relevant ministry to find out whether the taxes could split into a royalty part and a true company tax part. In regard to the final proposal (which is yet to be determined by the Canberra II Group) he does not like the idea of partitioning ownership of the sub-soil asset.

The Australian representative supported the proposals. He noted that the ABS had been including sub-soil assets in the balance sheets for some years. The values are estimated as their net present value.

Item 20. Treatment of land improvements

Charles Aspden presented his paper for decision of the ISWGNA/AEG of December 2004

The Canadian representative supported the proposals, but asked how the value of unimproved land would be estimated.

The representative from Eurostat thought the task of splitting the rent/rental of land between land improvements and unimproved land would be horrendous.

The Australian representative expressed his support for the proposals but asked if the COT on land transfer would be written off over the expected period of ownership.

The UK representative expressed his support for the proposals, but questioned whether there would be no impact on GDP as claimed in the paper.

The German representative expressed her support for the proposals, adding that Germany was unable to distinguish between capital formation of land improvements and other forms of construction in its surveys.

The New Zealand representative largely supported the proposals, but queried whether activities such as contouring and stone clearing could be depreciated.

The representative from the Netherlands asked what the value of the land improvements would be for his house site which is below sea level, given that the dykes, etc that prevented his house from being submerged were providing similar services to his neighbours.

Charles Aspden responded as follows:

1. The proposal is that unimproved land should be valued as the combined land value less the stock of land improvements.
2. The problem of splitting rent/rentals already existed in respect of land and buildings/structures. The proposal merely shifted the boundary, with unimproved land on one side and produced assets on the other. He also noted that when a split could not be made the total rent/rental should be allocated completely to one or the other depending on the relative values of the produced and non-produced components. If anything, the proposal should be easier to implement that the status quo.

3. He confirmed that COT on land transfers should be written off over the expected period of ownership.
4. He argued that all land improvements, including contouring and stone clearing were subject to depreciation and required maintenance.
5. The value of the land improvements to the Dutch house site from the dykes, etc. should be estimated by allocating the total costs to each block of land.
6. He thought that GDP would be unaffected, but he invited members to review his tables at the end of the paper and alert him to any errors.

붙임3. 참가자 명단

PARTICIPANTS LIST OF THE WORKING PARTY ON NATIONAL ACCOUNTS

LISTE DES PARTICIPANTS DU GROUPE DE TRAVAIL SUR LA COMPTABILITÉ NATIONALE

11 October 2004 - 15 October 2004

Allemagne / Germany	
Mr. Wolfgang EICHMANN Head of Section National Accounts Department Statistisches Bundesamt Gustav-Stresemann-Ring 11 65180 WIESBADEN	Phone: +49 611 752 357 Fax: +49 611 753 952 Email: wolfgang.eichmann@destatis.de
Mrs. Oda SCHMALWASSER Head of Section Statistisches Bundesamt Gustav-Stresemann-Ring 11 WIESBADEN	Phone: +49 611 752 680 Fax: +49 611 753 950 Email: oda.schmalwasser@destatis.de
Mr. Reimund MINK Advisor European Central Bank (ECB) Kaiserstrasse 29 60311 FRANKFURT	Phone: +49 69 1344 7639 Fax: +49 69 1344 7637 Email: reimund.mink@ecb.int
Australie / Australia	
Mr. Derick CULLEN Director, Financial Statistics Australian Bureau of Statistics P.O. Box 10 BELCONNEN ACT 2616	Phone: +61 2 625 262 44 Fax: +61 2 625 253 80 Email: d.cullen@abs.gov.au
Mr. Michael DAVIES Director International Accounts Research Section International and Financial Accounts Branch Australian Bureau of Statistics Belconnen ACT 2616	Phone: +61 6 26 331 428 522 Email: michael.davies@abs.gov.au
Mr. Carl OBST Head, National Accounts Branch Australian Bureau of Statistics P.O. Box 10 BELCONNEN ACT 2616	Phone: +61 2 6252 6646 Fax: +61 2 6252 8045 Email: carl.obst@abs.gov.au
Autriche / Austria	
Mr. Michael ANDREASCH Statistician Oesterreichische Nationalbank Balance of Payments Division Postfach 61 1011 VIENNA	Phone: +43 1 404 20 5420 Fax: +43 1 404 20 5499 Email: michael.andreasch@oenb.at
Ms. Margarita SCHANDL-GREYER Senior Expert Oesterreichische Nationalbank Banking Statistics and Minimum Reserve Devision Postfach 61 1011 VIENNA	Phone: +43 1 404 20 3317 Fax: +43 1 404 20 3399 Email: margarita.schandl-greyer@oenb.at
Mr. Reinhold SCHWARZL Director National Accounts Statistics Austria Zentralamt Hintere Zollamtsstrasse 2b A-1033 Vienna	Phone: +43 1 71128 - 7712 Fax: +43 1 714 6252 Email: Reinhold.Schwarzl@statistik.gv.at
Belgique / Belgium	
Mr. Steven CAPPOEN Attaché, Division Comptes Financiers Banque Nationale de Belgique Département Statistique Générale Boulevard de Berlaimont 14 1000 BRUSSELS	Phone: Fax : Email: Steven.Cappoen@nbb.be

Mr. Hans DE DYN Attaché, Division Comptes Nationaux National Bank of Belgium Département Statistique Générale de Berlaimontlaan 14 1000 BRUSSELS	Phone: +32 2 221 30 38 Fax: +32 2 221 31 43 Email: hans.dedyn@nbb.be
Mme Anne MULKAY Chef de Division Comptes Financiers Banque Nationale de Belgique Département Statistique Générale 14, Bld. de Berlaimont 1000 BRUXELLES	Phone: +32 2 221 30 37 Email: anne.mulkay@nbb.be
M. Tim VAN WAEYENBERGE Statisticien-Economiste BANQUE NATIONALE DE BELGIQUE Division des comptes nationaux 14, Boulevard de Berlaimont B-1000 BRUXELLES	Phone: +32 2 221 49 84 Fax: +32 2 221 31 43 Email: tim.vanwaeyenberge@nbb.be
Canada / Canada	
Mr. Patrick O'HAGAN Assistant Director Statistics Canada Income and Expenditure Accounts Division 21st Floor "F", R.H. Coats Bldg Tunney's Pasture OTTAWA K1A OT6	Phone: +1 613 951 1798 Fax: +1 613 951 3618 Email: ohagpat@statcan.ca
Ms. Karen WILSON Director General System of National Accounts Statistics Canada 22nd floor, R.H. Coats Building Tunney"s Pasture OTTAWA K1A 0T6	Phone: +1 613 951 0439 Fax: +1 613 951 3688 Email: karen.wilson@statcan.ca
Corée / Korea	
Mr. Kyung-Yong KIM Deputy Director of Statistical Analysis Division National Statistical Office of Korea Building III, Government Complex - Dajeon 139, Seonsa-ro, Seo-gu DAEJEON 302-701	Phone: +82 42 481 2226 Fax: +82 42 481 2469 Email: gykim@nso.go.kr
Mr. Young Tai KIM Advisory Economist National Income Statistics Team Economic Statistics Department The Bank of Korea 110-3-Ga, Namdaemun-Ro, Jung-Gu SEOUL	Tel: +82 2 759 4377 Fax: +82 2 759 4387 E-mail: ytaikim@bok.or.kr
Danemark / Denmark	
Mr. Søren BRODERSEN Head of Division Statistics Denmark Sejrøgade 11 DK-2100 KØBENHAVN Ø	Phone: +45 39 17 3051 Fax: +45 39 17 3059 Email: sbr@dst.dk
Mrs. Betina Sand CHRISTENSEN Statistics Denmark Sejrøgade 11 DK-2100 KØBENHAVN Ø	Phone: +45 39 17 3917 Fax: +45 39 17 3059 Email: dst@dst.dk
Mr. Ole BERNER Statistics Denmark Sejroegade 11 2100COPENHAGEN	Phone: +45.3917.3061 Fax: +45.3917.3059 E-mail: obe@dst.dk

Etats-Unis / United States	
Mr. Dennis FIXLER US Department of Commerce Bureau of Economic Analysis (BE-7) 1441 L Street BE-7 WASHINGTON D.C. 20230	Phone: +1 202 606 9607 Fax: +1 202 606 5311 Email: Dennis.fixler@bea.gov
Mr. Brent MOULTON Associate Director for National Economic Analysis Bureau of Economic Analysis US Department of Commerce 1441 L Street, N.W. WASHINGTON D.C. 20230	Phone: +1 202 606 9606 Fax: +1 202 606 5311 Email: brent.moulton@bea.gov
Ms. Sumiye OKUBO Associate Director for Industry Economic Accounts US Department of Commerce Industry Accounts Bureau of Economic Analysis (BE-9) 1441 L St. NW WASHINGTON, DC 20230	Phone: +1 202 606 9612 Fax: +1 202 606 5311 Email: sumiye.okubo@bea.gov
Finlande / Finland	
Mrs. Eeva HAMUNEN Head of National Accounts Unit Statistics Finland Työpajakatu 13 00580 HELSINKI	Phone: +358 9 1734 3385 Fax: +358 9 1734 2450 Email: Eeva.Hamunen@stat.fi
Ms. Paula KOISTINEN-JOKINIEMI Head of Financial Accounts Division Statistics Finland Työpajakatu 13 00580 HELSINKI	Phone: +358 9 1734 3362 Fax: +358 9 1734 2450 Email: paula.koistinen-jokiniemi@stat.fi
France / France	
M. Patrick AUGERAUD chef du pôle comptes annuels Planistat Service études et statistiques d'opérations financières 47-1421 DESM-SESOF 75049 PARIS cedex 01	Phone: +33 1 42 92 28 55 Fax: +33 1 42 92 27 52 Email: patrick.augeraud@banque-france.fr
M. Alexandre BOURGEOIS INSEE 18 bld Adolphe PINARD PARIS cedex 14	Phone: Fax : Email :Email: alexandre.bourgeois@insee.fr
M. Michel BRAIBANT Administrateur INSEE - expert Institut National des Statistiques et des Etudes Economiques (INSEE) Département des comptes nationaux (DESE) Timbre G450 15 bd Gabriel Peri 92245 MALAKOFF Cedex	Phone: + 33 1 41 17 61 32 Fax: + 33 1 41 17 60 98 Email: michel.braibant@insee.fr
Mme Dominique DURANT Banque de France 47-1421 DESM – SESOF 75049 PARIS CEDEX 01	Phone: + 33 1 42 92 28 12 Fax: + 33 1 42 92 27 52 Email: dominique.durant@banque-france.fr
M. Adrien FRIEZ Chef du service des indicateurs d'activité à court terme (Head of Division of Short-term Activity Indicators) INSEE 18, Bld Adolphe Pinard PARIS Cedex 14	Phone: +33 1 41 17 50 91 Fax : Email: Adrien.Friez@insee.fr
Mme Maryvonne LEMAIRE Chef du service des comptes nationaux INSEE 18, boulevard Adolphe Pinard 75675 PARIS CEDEX 14	Phone: +33 41 17 37 01 Fax: +33 41 17 37 37 Email: maryvonne.lemaire@insee.fr

M. Paul-Emmanuel PIEL INSEE 18, boulevard Adolphe Pinard 75675 PARIS CEDEX 14	Phone: +33 1 41 17 39 95 Fax: +33 1 41 17 37 37 Email: paul-emmanuel.piel@insee.fr
Mme Isabelle VALDES statisticienne INSEE Service financier Paris	Phone: Fax: Email: isabelle.valdes@insee.fr
Hongrie / Hungary	
Ms. Edit GÓDORNÉ KALÓ National Bank of Hungary Szabdaság tér 8-9 H-1850 BUDAPEST	Phone: +36 1 428 2669 Fax : +36 1 428 2539 Email : godornee@mnb.hu
Mr. Csak LIGETI Director of National Accounts department P.O. Box 51 Ungarian Central Statistical Office 1525 Budapest	Phone: + 36 1 345 64 48 Fax: + 36 1 345 11 92 Email: csak.ligeti@ksh.gov.hu
Islande / Iceland	
Mr. Gamaliel SVEINSSON Director, National Accounts Statistics Iceland Borgartun 21A IS-150 REYKJAVIK	Tel: +354 528 1015 Fax: +354 528 1299 E-mail: gamaliel.sveinsson@statice.is
Irlande / Ireland	
Mr. John O'HAGAN Senior Statistician National Accounts Division Central Statistics Office Ardee Road Rathmines 6 DUBLIN	Phone: +353 1 498 4318 Fax: +353 1 498 4381 Email: john.ohagan@cso.ie
Italie / Italy	
Mrs. Alfonsina CARICCHIA Head, National Accounts ISTAT Via Depretis 74B 00100 ROME	Phone: +39 06 4673 3152 Fax: +39 06 4673 3157 Email: caricchi@istat.it
Japon / Japan	
Mr. Hidehiko FUTAMURA Assistant Director, Research & Coordination Division, Department of National Account Cabinet Office Economic and Social Research Institute 3-1-1,, Kasumigaseki, Chiyoda-ku 100-8970 TOKYO	Phone: +81 3 3581 7228 Fax: +81 3 3581 0716 Email: hidekiko.futamura@mfs.cao.go.jp
Mr. Toshie KORI Economist Bank of Japan International Department 2-1-1, Hongoku-cho, Nihonbashi, Chuo-ku 103-8660 TOKYO	Phone: +81 3 3277 2742 Fax: +81 3 5203 7436 Email: toshie.koorie@boj.or.jp
Mr. Toshio OKAMOTO Director, Financial Services, Research and Statistics Dept. Bank of Japan 2-1-1, Hongoku-cho, Nihonbashi, Chuo-ku 103-8660 TOKYO	Phone: +81 3 3277 2881 Fax : +81 3 3277 3013 Email : toshio.okamoto@boj.or.jp

Luxembourg / Luxembourg	
M. John HAAS STATEC Head of National Accounts Unit C1 Centre administratif Pierre Werner 13, rue Erasme 1468 LUXEMBOURG-KIRCHBERG	Phone: +352 478 42 32 Fax: +352 46 42 89 Email: john.haas@statec.etat.lu
Mexique / Mexico	
Jaime DE LA LLATA FLORES Head of National Accounts & Economic Statistics INEGI Av. Patriotismo n° 711 Torre A - 7° Floor - Col. San Juan Mixoac Mixcoac Delegation Benito Juarez C.P. 03730 MEXICO D. F.	Phone: +52 55 52 78 10 75 Fax: +52 55 56 15 05 51 Email: jaime.llata@inegi.gob.mx
Norvège / Norway	
Mme Ann Lisbet BRATHAUG Head of Division for National Accounts Statistics Norway Kongens gt. 6 P.O. Box 8131 Dep. N-0033 OSLO	Phone: +47 21 09 48 52 Fax: +47 21 09 44 04 Email: ann.lisbet.brathaug@ssb.no
Nouvelle-Zélande / New Zealand	
Mr. Jeff COPE Chief Economist National Accounts Division Statistics New Zealand Dollan House 401 Madras Street Private Bag 4741 CHRISTCHURCH	Phone: +64 3 964 8986 Fax: +64 3 964 8999 Email: jeff.cope@stats.govt.nz
Pays-Bas / Netherlands	
Mr. A.J. DE BOO Statistics Netherlands Pr. Beatrixlaan 428 2273 XZ VOORBURG	Phone: +31 70 3374 260 Fax: +31 70 3375 980 Email: ABOO@cbs.nl
Mr. Peter VAN DE VEN Head, Department of National Accounts Statistics Netherlands Department of National Accounts Prinses Beatrixlaan 428 2273 XZ VOORBURG	Phone: +31 70 337 4832 Fax: +31 70 337 5981 Email: pven@cbs.nl
Pologne / Poland	
Ms. Bozena JAKOBIAK Director of National Accounts & Finance Division Central Statistical Office Al. Niepodleglosci 208 00-925 WARSAW	Phone: +48 22 608 37 64 Fax: +48 22 608 38 76 Email: b.jakobiak@stat.gov.pl
Ms. Monica LEWICKA National Accounts & Finance Division Central Statistical Office Al. Niepodleglosci 208 00-925 WARSAW	Phone: +48 22 608 3527 Fax: +48 22 608 3876 Email: m.bielak@stat.gov.pl
République Slovaque / Slovak Republic	
Pavol BALAZ General Director Statistical Office of the Slovak Republic National Accounts & Prices Section Mileticova 3 82467 BRATISLAVA 26	Phone: +421 2 502 36 522 Fax: +421 2 502 36 500 Email: pavol.balaz@statistics.sk

République Tchèque / Czech Republic	
Mr. Jan HELLER Director, National Accounts Branch Czech Statistical Office Na Padesatem 81 100 82 PRAGUE 10	Phone: +420 274 052 865 Fax: +420 274 054 144 Email: heller@gw.czso.cz
Ms. Ludmila VEBROVA Czech Statistical Office Financial, Government and Non-profit Institutions Statistics Dept Na Padesatem 81 100 82 PRAGUE 10	Phone: +420 274 052 975 Fax: +420 274 054 144 Email: vebrova@gw.czso.cz
Royaume-Uni / United Kingdom	
Mr. Joe GRICE Executive Director Office for National Statistics Atkinson Review Team 1 Drummond Gate LONDON SW1V 2QQ	Phone: +44 2057 5335004 Fax: +44 1633 652570 Email: joe.grice@ons.gov.uk
Mr. Tony ATKINSON Nuffield College New Road OXFORD OX1 1NF	Phone: +44 1865 278515 Fax: +44 18652 78621 Email: tony.atkinson@nuf.ox.ac.uk
Andrew EVANS Office for National Statistics Non-financial Corporations and Balance Sheets branch 1 Drummond Street LONDON SW1V 2QQ	Phone: +44 2075 336008 Fax: Email: andrew.evans@ons.gov.uk
M. Nollaig GRIFFIN Office for National Statistics Non-financial Corporations and Balance Sheets branch 1 Drummond Gate LONDON SW1V 2QQ	Phone: +44 2075 336073 Fax: Email: Nollaig.Griffin@ons.gsi.gov.uk
M. Graham JENKINSON Office for National Statistics Director, National, Expenditure & Income Division 1 Drummond Gate LONDON SW1V 2QQ	Phone: +44 2075 335994 Fax: Email: graham.jenkinson@ons.gov.uk
Mr. Robin LYNCH Director, National Accounts Group Office for National Statistics 1 Drummond Gate LONDON SW1V 2QQ	Phone: +44 2075 335094 Fax: +44 2075 335903 Email: Robin.Lynch@ons.gov.uk
Ms. Fenella MAITLAND-SMITH Office for National Statistics 1 Drummond Gate LONDON SW1V 2QQ	Phone: +44 2075 335938 Email: Fenella.maitland-smith@ons.gov.uk
Mr. Alwyn PRITCHARD Head of International Branch Office for National Statistics Atkinson Review Team 1 Drummond Gate LONDON SW1V 2QQ	Phone: +44 2075 335517 Fax: +44 1633 652570 Email: alwyn.pritchard@ons.gov.uk
Ms. Aileen SIMKINS Office of National Statistics Atkinson Review Team 1 Drummond Gate LONDON SW1V 2QQ	Tel: Fax: Email: aileen.simkins@ons.gov.uk
Mr. Robert WESTWOOD Analyst Bank of England Research & Development Threadneedle Street LONDON EC2R 8AH	Phone: +44 2076 014933 Fax: + 44 2076 013208 Email: robert.westwood@bankofengland.co.uk

Suède / Sweden	
Mr. Per ERICSON Head, National Accounts Division Statistics Sweden Box 24300 10451 STOCKHOLM	Phone: +46 8 5069 4537 Fax: +46 8 5069 4296 Email: per.ericson@scb.se
Suisse / Switzerland	
M. Philippe KUTTEL Head, National Accounts Division Office Fédéral de la statistique Espace de l'Europe 10 2010 NEUCHATEL	Phone: +41 32 713 60 67 Fax: +41 32 713 6864 Email: philippe.kuettel@bfs.admin.ch
Turquie / Turkey	
Mr. Ferhat ARSLANER Director of National Accounts Department State Institute of Statistics Necatibey Cad. 114 06100 Bakanliklar/ANKARA	Phone: +90 312 425 35 82 Fax: +90 312 425 06 14 Email: ferhat.arslaner@die.gov.tr
CE / EC	
M. Philippe DE ROUGEMONT EUROSTAT Unit C.3 - Finance & Taxation Bâtiment BECH L-2920 LUXEMBOURG	Phone: +352 4301 37065 Fax: Email: Philippe.DE-ROUGEMONT@cec.eu.int
Mr. Brian NEWSON Head of Unit National Accounts EUROSTAT Bât. Bech 5, rue Alphonse Weicker L-2921 Luxembourg	Phone: +352 4301 32086 Fax: +352 4301 33029 Email: brian.newson@cec.eu.int
Mr. Joachim RECKTENWALD EUROSTAT Bât. Bech 5, rue Alphonse Weicker 2920 LUXEMBOURG	Phone: +352 4301 34103 Fax: +352 4301 33029 Email: joachim.recktenwald@cec.eu.int
Mr. Roberto BARCELLAN EUROSTAT 5, rue Alphonse Weicker 2920 LUXEMBOURG	Phone: +352 4301 35802 Fax: +352 4301 33879 E-mail: roberto.barcellan@cec.eu.int
Afrique du Sud / South Africa	
Mr. Joe DE BEER Executive Manager Statistics South Africa National Accounts De Bruyn Park 170 Andries street 0001 PRETORIA	Phone: +27 12 310 8024 Fax: +27 12 310 6924 Email: JoeDB@statssa.gov.za
Albanie / Albania	
Ms. Elona HYSENAJ INSTITUTE OF STATISTICS OF ALBANIA Expert on National Accounts Department Rruga " Leke Dukagjini" No 5 P.O Box 8194 TIRANA	Phone: +355 4 222411 Fax: +355 4 228300 Email: esevrani@instat.gov.al
Ms. Ina PAGRIA INSTITUTE OF STATISTICS OF ALBANIA Expert on National Accounts Department Rruga " Leke Dukagjini" No 5 P.O Box 8194 TIRANA	Phone: +355 4 222411 Fax: +355 4 228300 Email: ipgria@instat.gov.al
Bosnie-Herzégovine / Bosnia and Herzegovina	
Ms. Dijana MLIKOTA Agency for statistics of Bosnia & Herzegovina Trg biH Address: 71000 SARAJEVO	Phone: Fax: Email: dmlikota@bih.net.ba

Bulgarie / Bulgaria	
Mrs. Antoaneta HRISTOVA State Expert National Statistical Institute of Bulgaria National Accounts Division 2, P. Volov street 1038 SOFIA	Phone: +359 2 9857 467 Fax: +359 2 9857 488 Email: AHristova@nsi.bg
Chypre / Cyprus	
Mr. George ZEITOUNTSIAN Head of National Accounts Statistical Service of Cyprus Michalakis Karaolis Str. 1444 NICOSIA	Phone: +357 22 602 232 Fax: +357 22 661 313 Email: gzeitountsian@cystat.mof.gov.cy
Croatie / Croatia	
M. Igor JEMRIC Director, Statistics Department Croatian National Bank TRG Hrv. Velikana 3 10000 ZAGREB	Phone: +385 14 564 543 Fax: +385 14 550 854 Email: igor.jemric@hnb.hr
Dr. Ivan SUTALO Central Bureau of Statistics of the Republic of Croatia Branimirova 19-21 10000 ZAGREB	Phone: +385 14 893 447 Fax: +385 14 893 595 Email: sutaloi@dzs.hr
Fédération de Russie / Russian Federation	
Mr. Andrei KOSAREV Adviser to the Head of Federal Service on State Statistics Bureau of Economic Analysis Zubovsky blvd., 27/26-3 103450 MOSCOW	Phone: +7 095 937 67 50 Fax: + 7 095 937 67 53 Email: A_Kosarev@beafnd.org
FYROM / FYROM	
Ms. Suzana ICKOVA State Statistical Office of the Republic of Macedonia Dame Gruev 4 SKOPJE 91000	Phone: +389.2.3295.782 Fax: +389.2.3111.336 Email: suzanai@stat.gov.mk
Israël / Israel	
Mr. Oren BAR-EL Premier Secrétaire Ambassade d'Israël à Paris Affaires économiques et scientifiques 3, rue rablais 75008 PARIS	Phone: +33 1 40 76 54 61 Fax : +33 1 40 76 54 52 Email: economy@paris.mfa.gov.il
Mr. Balfour OZER Director Bank of Israel Foreign Exchange Activity Department P.O. Box 780 91007 Jerusalem	Phone: +972 2 655 2570 Fax: +972 2 652 8269 Email: bozer@bankisrael.gov.il
Ms. Soli PELEG Senior Director of Macro Economics Department Central Bureau of Statistics Kanfey Nesharim 66 Corner Bachi St. JERUSALEM 95464	Phone: +972 2 6592601 Fax: +972 2 6592603 Email: soli@cbs.gov.il
Lituanie / Lithuania	
Ms. Irena TVARIJONAVICIUTE Statistics Lithuania Head, National Accounts Division 29 Gedimino ave. LT-01500 VILNIUS	Phone: +370 5 236 4837 Fax: +370 5 236 4845 Email: irena.tvarijonaviciute@std.lt
Monaco / Monaco	
M. Jean-Claude BEYNETT Chief, Economic Expansion Directorate Statistics and Economic Studies Division 9, rue du Gabian 98000 MONTE CARLO	Phone: +377 93 15 41 59 Fax: +377 93 15 87 59 Email: jbeynet@gouv.mc

Mme Delphine FRAPPIER Administrator Statistics and Economic Studies Division 9, rue du Gabian 98000 MONTE CARLO	Phone: +377 93 15 41 51 Fax: +377 93 15 87 59 Email: dfrappier@gouv.mc
Mongolie / Mongolia	
Mr. Demberel AYUSH General Director National Statistical Office Macro Economic and Business Statistics Department Government bldg III Baga-toiruu-44 ULAANBAATAR-11	Phone: +976 11 323 968 Email: demberel_a@yahoo.com
Ms. Pagamsuren DASHZEVEG Officer National Statistical Office Macro Economic Department Government bldg III Baga-toiruu-44, ULAANBAATAR-11	Phone: +976 11 320 910 Fax: +976 11 324 518 Email: pagamsuren23@yahoo.com
Roumanie / Romania	
Ms. Silvia CARAGEA National Institute of Statistics Director, National Accounts 16 Libertatii Av. Sector 5 BUCHAREST	Phone: +40 21 335 5775 Fax: +40 21 311 2389 Email: s.chirimbu@insse.ro
Mrs. Adriana CIUCHEA Deputy Director of National Accounts National Commission for Statistics Bd Libertatii, n°16Scara 7, Sector 5 BUCHAREST	Phone: +40 21 410 1569 Fax: +40 21 311 2389 Email: aciuchea@insse.ro
Ms. Ruxandra VIEASU National Institute of Statistics Bd Libertatii 16 70542 BUCHAREST	Phone: +40 21 4 10 6744 - 2289 Fax: +40 21 3 11 23 89 Email: rvieasu@insse.ro
Serbie et Montenegro (Montenegro) / Serbia and Montenegro (Montenegro)	
Ms. Mirjana DJURANOVIC Statistical Office of Montenegro Head of Department of Macro-Economic IV Proleterske 2 81000 PODGORICA	Phone: +381 81 242 001 Fax: +381 81 241 959 Email: statistika@cg.yu
Ms. Ratkovic DRAGANA Chief Republic Statistical Office of Serbia Department of National Accounts Milana Rakica 5 BELGRADE 11 000	Phone: +381 11 2412922 ext. 302 Fax: +381 11 411 260 Email: dratkovic@statserb.sr.gov.yu
Ms. Dragaha RATKOVIC Statistician Republic Statistical Office of Serbia Miloina Rakiæa 5 BELGRADE 11000	Phone: +381 11 2412922 Fax: +381 11 411 260 Email: dratkovic@statserv.sr.gov.yu
Mr. Miroslav JANKOVIC Federal Statistical Office Kneza Milosa 20 BELGRADE 11000	Phone: +381 11 361 7319 Fax: +381 11 361 7295 Email: miroslav@szs.sv.gov.yu
Slovénie / Slovenia	
Mrs. Janja KALIN Under Secretary Statistical Office of the Republic of Slovenia National Accounts Vozarski pot 12 LJUBLJANA 1000	Phone: +386 12 415 100 Fax: +386 12 415 344 Email: janja.kalin@gov.si

Commission économique pour l'Europe des Nations Unies (CEE-ONU) / U.N. Economic Commission for Europe (ECE)	
Ms. Lidia BRATANOVA Economic Commission for Europe Statistical Division Palais des Nations 1211 GENEVA 10 Switzerland	Phone: +41 22 917 1772 Fax: +41 22 917 0040 Email: lidia.bratanova@unece.org
Ms. Tiina LUIGE Statistical Division United Nations Economic Commission for Europe Palais des Nations CH-1211 GENEVA 10	Phone: +41 22 917 1097 Fax: +41 22 917 0040 Email: tiina.luige@unece.org
Fonds monétaire international (FMI) / International Monetary Fund (IMF)	
Mr. Adriaan BLOEM Chief, Real Sector Division International Monetary Fund 700 19th Street, N.W. WASHINGTON D.C. 20431 United States	Phone: +1 202 623 6397 Fax: +1 202 623 6028 Email: ABloem@imf.org
Mr. John JOISCE Senior Economist International Monetary Fund Balance of Payments and External Debt Division I, Statistics Department 700 19th Street, N.W. WASHINGTON D.C. 20431 United States	Phone: +1 202 623 6136 Fax: +1 202 623 6033 Email: jjoisce@imf.org
OCDE/OECD	
Mr. Charles ASPDEN Principal Administrator, National Accounts Division OECD STATISTICS DIRECTORATE 2, rue André Pascal 75016 PARIS	Phone: +33 1 45 24 14 03 Email: Charles.ASPDEN@oecd.org
Mrs. Michèle CHAVOIX-MANNATO OECD STATISTICS DIRECTORATE 2, rue André Pascal 75016 PARIS	Phone: +33 1 45 24 84 45 Email: Michèle.Chavoix-Mannato@oecd.org
M. Jean-Pierre DUPUIS OECD STATISTICS DIRECTORATE 2, rue André Pascal 75016 PARIS	Phone: +33 1 45 24 81 01 Email: Jean-Pierre.DUPUIS@oecd.org
Mlle. Michele HAINAUT OECD STATISTICS DIRECTORATE 2, rue André Pascal 75016 PARIS	Phone: +33 1 45 24 88 38 Email: Michele.HAINAUT@oecd.org
Mlle. Micheline HARARY OECD STATISTICS DIRECTORATE 2, rue André Pascal 75016 PARIS	Phone: +33 1 45 24 88 35 Email: Micheline.HARARY@oecd.org
Ms. Anne HARRISON OECD GENERAL SECRETARIAT 2, rue André Pascal 75016 PARIS	Phone: +33 1 45 24 80 45 Email: Anne.HARRISON@oecd.org

M. François LEQUILLER Head, National Accounts & Financial Statistics Division OECD STATISTICS DIRECTORATE 2, rue André Pascal 75016 PARIS	Phone: +33 1 45 24 88 06 Email: Francois.LEQUILLER@oecd.org
Mr. Anders NORDIN OECD STATISTICS DIRECTORATE 2, rue André Pascal 75016 PARIS	Phone: +33 1 45 24 76 87 Email: Anders.NORDIN@oecd.org
Mme Isabelle YNESTA OECD STATISTICS DIRECTORATE 2, rue André Pascal 75016 PARIS	Phone: +33 1 45 24 91 13 Email: Isabelle.YNESTA@oecd.org
Autre / Other	
Mr. Bruno BÜCHEL Amt für Volkswirtschaft Gerberweg 5 FL-9490 VADUZ LIECHTENSTEIN	Phone: +423 236 64 50 Fax: +423 236 68 89 Email: Bruno.Buechel@avw.llv.li
Ms. Andi Riena SARI Real Sector and Government Finance Statistic Division Bank of Indonesia Directorate of Economic and Monetary Statistics Tower B, 24th Floor Jalan M.H. Thamrin 2 10010 Jakarta INDONESIA	Phone: +622 13 81 81 86 Fax: +622 13 45 63 71 Email: reina@bi.go.id
Ms. Widi Agustin SRIHANOKI Real Sector and Government Finance Statistic Division Bank of Indonesia Directorate of Economic and Monetary Statistics Tower B, 24th Floor Jalan M.H. Thamrin 2 10010 Jakarta INDONESIA	Email: widi_as@bi.go.id

붙임4. 주요 발표논문

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)8
For Official Use

National Accounts and Economic Statistics

ESTABLISHMENT OF THE SUBSIDIARY BODY OF THE OECD COMMITTEE ON STATISTICS

This document has been prepared by François LEQUILLER - OECD (Statistics Directorate)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12-15 October 2004

Tour Europe, Paris La Defense
Beginning at 9:30 a.m. on the first day

For further information please contact:
François Lequiller
E-mail: Francois.lequiller@oecd.org

English - Or. English

ESTABLISHMENT OF THE SUBSIDIARY BODY OF THE OECD COMMITTEE ON STATISTICS

Introduction

1. In its first meeting (7-8 June 2004), the OECD Committee on Statistics expressed its agreement on the proposal to transform the "Expert Group on National Accounts" into a subsidiary body (Working Party) of the Committee. The Secretariat was asked to prepare the Terms of Reference for this Group, which are now submitted to the Committee for endorsement by written procedure. The proposal will be then submitted to the Council.

Background and proposed arrangements

2. The "Expert Group on National Accounts" has met annually since the beginning of the 1980s. Historically, it has been the pivotal international meeting for the development of the System of National Accounts and of other manuals and handbooks on national accounts adopted worldwide. Currently it plays a key role in the process of updating the 1993 version of the System of National Accounts, whose conclusion is envisaged in 2008. In addition, it represents the most important forum for OECD national accountants to improve the quality and comparability of the statistics they produce. The Group meets annually in October, while its task forces work throughout the year. The meeting of the Group is organised in conjunction with the meeting of the "Working Party on Financial Statistics" (WGFS), where financial accounts issues are discussed.

3. The transformation of the Expert Group into an official Working Party belonging to the Committee on Statistics would reinforce the authority of the body in carrying out its work. Recommendations prepared by the Working Party would be submitted to the Committee for discussion and endorsement. The transformation would be budget neutral.

4. The Secretariat has drafted the mandate for the Working Party.

5. The Working Party would elect its Bureau comprising one chairperson and two vice-chairs. The Bureau is elected with a two year mandate. The chairperson can be re-elected for a second term.

ANNEX 1

WORKING PARTY ON national accounts

Mandate

The Committee on Statistics,

Having regard to Articles 1, 2, 5a) and 12 of the Convention on the Organisation for Economic Co-operation and Development of 14 December 1960;

Having regard to the resolution of the Council creating the Committee on Statistics and granting it the responsibility to "ensure that OECD statistics are produced according to high quality standards" and "officially approve methodological recommendations elaborated on specific subjects" [C(20038)217 and C(2003)217Corr1];

Having regard to the Rules of Procedure of the Organisation;

Considering that comparable quantitative information on national accounts across OECD Member countries is indispensable for carrying out national and international economic analysis;

Emphasising the importance of the System of National Accounts as a guide for the development of all economic statistics;

Recognising the historical role played by the OECD in the development of standards to compile national accounts data worldwide;

DECIDES:

1. The Working Party on National Accounts is established;

2. The Working Party will undertake work to improve the quality of national accounts data in accordance with priorities established by the OECD Committee on Statistics;

3. In particular the Working Party will:

   - facilitate the development and improvement of internationally comparable methodologies in order to allow users to better compare the growth and the levels of national accounts variables between OECD countries, including satellite accounts;

   - monitor, in coordination with the Inter-Secretariat Working Group on National Accounts (ISWGNA), the changes and clarification needed in the Manual of the System of National Accounts to increase the relevance and the international comparability of national accounts statistics;

- monitor by regular studies the comparability of the data in all domains of national accounts, including price/volume issues, quarterly accounts, general government and institutional sector accounts, and employment and productivity analysis;

- encourage the implementation of international guidelines and recommendations by Member countries, including those regarding compilation methods and accurate measurement of key phenomena;

- encourage the timely availability of statistical series and monitor their prompt transmission to the OECD in order to better serve international users of national accounts data;

4. The Working Party will seek the maximum practicable conformity of its own work with relevant statistical work undertaken by other parts of the OECD, and in particular the Working Party on Financial Statistics (WPFS) which covers financial accounts; and also with related work on national accounts undertaken by other competent international and supranational organisations. To avoid duplication of efforts, a particular attention has to be paid to the co-ordination of the activity of the Working Party with that carried out by other working groups active at international level;

5. Finally, the Working Party will act as a forum in which Member countries will be able to exchange information and experience on new concepts and methods of compilation of national accounts and on new experiences on the use of national accounts data;

6. The duration of the present mandate shall be four years ending 31 December 2008. The Committee on Statistics will review the results obtained every year before the end of the mandate.

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

24-Sep-2004

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)7
For Official Use

National Accounts and Economic Statistics

THE TREATMENT OF PROVISIONS IN THE NATIONAL ACCOUNTS: ELEMENTS FOR THE REVIEW OF THE SNA

This document has been prepared by François Lequiller - OECD (Statistics Directorate)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12-15 October 2004

Tour Europe, Paris La Defense
Beginning at 9:30 a.m. on the first day

For further information please contact:
François Lequiller
E-mail: francois.lequiller@oecd.org

JT00169983

English - Or. English

THE TREATMENT OF PROVISIONS IN THE NATIONAL ACCOUNTS:

ELEMENTS FOR THE REVIEW OF THE SNA

1. The aim of this paper is to launch a discussion on the general treatment of *provisions* and *impairment of assets* in the National Accounts, in the context of the review of the SNA. The paper argues that the SNA should recognize the *provisions* and *impairment of assets* that are recognised by business accounting standards, instead of, as currently, rejecting these items outside the scope of the accounts.

2. The paper proposes the creation of new lines in the sequence of account, located just before the balance sheet accounts, where the SNA would record *changes in provisions* and *impairment of assets*. Also, the stock of *provisions* and *impairment of assets* would be available in the annual balance sheet accounts. Both these pieces of information would come as an additional information to the existing tables.

3. Far from being a revolution, this proposal would simply allow users to compile alternative values for the net worth of institutional sectors, including or excluding these items. One specific property of this additional information is that the tables would not be fully symmetrical. It is a small price to pay compared to the advantage of extending the scope of the SNA to these important accounting entries.

4. By including these categories into the framework of the SNA, a new flexibility is introduced which will, first, help to clarify the treatment of some transactions and, more important, allow producers of national accounts to elaborate macro-economic information on "quasi-liabilities" and "quasi-assets", in particular in the domain of pension schemes, government guarantees, or non performing loans. The paper remains general and does not analyze case by case the different provisions and the consequences of their inclusion into the scope of the accounts. Also, it does not cover practical issues. The author is far from having the expertise to do that. The aim of the paper is simply to try to open a door which seems to be locked by a (false) debate on principles.

1. Relations between accounting principles

5. The SNA revision process, which was recently launched by the ISWGNA, is impressive in its scope. However, issues were included in the review program with a view of responding to relatively well known and well delimitated issues. Little effort has been done to broaden the scope to more general issues. One of these broad issues could have been to better analyze the remaining differences in *principles* between the national accounts and the business accounts.

6. The SNA review guidelines elaborated by the ISWGNA indicate that issues selected for the revision of the SNA should be new issues (i.e. whose problematic has recently appeared). In this context, one could say without contesting that one of the most important new trends in accounting in the last years is the emergence of new *international* standards in business accounting, embodied in the IASB recommendations, which will be implemented in national standards and should even been made obligatory (with some adjustments) for listed EU companies, starting in 2005. No less important for national accountants, *international* standards of *public finance accounting* are also under discussion, under the auspices of the IFAC-PSC. These new standards are not only more international than before but have evolved compared to old national standards, in particular with the increasing reference to the reporting of

assets and liabilities on the balance sheet at "fair value", which is equivalent to the preferred valuation of assets in the SNA.

7. The recent decade has been one of high profile for the national accounts. The SNA 93/ESA 95 was the only *international* accounting guideline to be implemented in practice. IAS and international GAAP did exist but were not systematically applied in accounting standards. In macro-economic statistics, the SNA gained the status of the unavoidable reference. This status was legally recognised by European Union countries, and, further, in Europe and elsewhere, essential policy indicators of public finance have been using its framework (Maastricht criteria and GFS).

8. At the same time, the SNA, which many users wrongly think is concerned only with the compilation of GDP or household disposable income, has the ambition of covering all aspects of economic accounting. This means not only goods and services accounts (I/O tables), but also complete institutional sectors accounts, and in particular *balance sheets*.

9. While only a few countries yet publish the complete balance sheet tables (and other changes in volume and reevaluations accounts) that are recommended by the SNA, *conceptually* the structure of the accounts and the recommended treatments regarding institutional sectors accounts are logically based on the central balance sheet concept of *net worth*. This logic is one of the main drivers of the major convergence that was achieved between national accounts and business accounts regarding the principle of *accrual accounting*.

10. These parallel trends of, on one hand, more international standards in business and public finance accounting, and, on the other hand, more balance sheet information in the macroeconomic accounts is bound to lead to the question of why the principles of these two accounting systems differ, in particular for the calculation of balance sheets.

11. It is not a coincidence that this issue has already materialized regarding the government sector[1]: this sector is, at the same time, a macro-economic sector (S13 in the SNA) and a "micro-economic" agent (in the sense that there is a body directly or quasi-directly responsible of its accounts[2]). Despite the difference in nature between a government and an enterprise, more and more business sector accounting recommendations are adapted to the government sector. In this context, more and more questions will be raised as to why the national accounts principles differ from the business sector accounting principles adapted to the government sector.

12. Part of the problematic of the present paper is therefore inspired[3] by the very interesting paper by Lucie La Liberté, presented to the 2004 IARIW conference (see [1] in Bibliography), which illustrates much better and much more extensively than the present paper the domains in which convergence could be reached between national accounts principles and business accounts principles (adapted to government). Another recent paper, from André Vanoli, also much more extensive than the present paper, contributed to the drafting of the present paper [2].

13. Compared to the vast scope of these excellent papers, the present paper is limited to only one domain of possible better convergence, which is the treatment of *provisions*. In this context, it owes a debt

---

1 With the creation of the Task Force on Harmonisation of Public Sector Accounts (TFHPSA), whose explicit mandate is to try to converge with the IFAC-PSC recommendations.

2 It would be perhaps more appropriate to refer here to S1311, central government, but the idea is the same.

3 This does not mean that Lucie La Liberté forcibly agrees to the *proposals* that I make in the present paper. I keep of course the entire responsibility of these.

to another excellent paper, prepared by Jean-Paul Milot, which discusses specifically the issue of provisions in national accounts [3].

2. The objectives of the measure of net worth are similar for a single unit

14. I suppose that business accountants can give a very simple definition of the *net worth* of the companies that they report for. It is the amount that someone should pay to buy them. This definition is not adapted to the macroeconomic accounts, because, first, they cover institutional units which are not "sellable" (households, government), and second, they report aggregated data. Nobody can nor is willing to buy the net worth of the Nation, often referred as the national wealth.

15. However, despite this difference in nature, the objective of the national accounts balance sheets is not so different from the objective of the business accountant. The SNA says (13.2): *"for an institutional unit or a sector, the balance sheet provides an indicator of economic status- i.e., the financial and non-financial resources at its disposal that are summarized in the balance sheet item net worth"*. While the SNA uses a very general term *"an indicator of economic status"*, showing the difficulty to give a more precise definition of the net worth in the context of macro-economic accounts, it, at the same time, explicitly proposes to apply the SNA balance sheet framework to one single unit (*"for an institutional unit"*). It is therefore relevant to compare the *net worth* for a single institution as calculated by the *national accounts* and as calculated by the *business accounts*. We will see later that the problem in macro-economics accounts is the relevance of *aggregating* net worth values.

3. But there are major differences in the principles governing its measure

16. As is most often the case with statistics and accounting systems, the user will never find the same figure for the net worth of a given unit whether it is calculated by a national accountant and by a business accountant. Several reasons explain this difference. The main one is well known and is described in detail in the section I of the introduction of the SNA[4]. It originates in the difference of valuation of the assets. Based on existing business accounting standards[5], business accountants are deemed to be "prudent" and value their assets at *historic costs*.

17. As explained in the section I of the introduction of the SNA, national accountants reject this valuation principle on the ground that only valuation at market value (or replacement value, or fair value) can lead to economically meaningful measures. It argues very convincingly that the cost of production (which includes the cost of the use of the capital) valued at historic prices result in a measure of profits which is misleading, because they systematically undervalue inputs compared to outputs. While not stating it explicitly, the SNA also considers that only balance sheets at market value are economically meaningful measures. Here is the good reason for the difference between the principles applied in the national accounts and in business accounting. It is such a good reason, that, as mentioned earlier, the business accounting principles seem to start to converge toward the national accounts principles in this case, with the increasing use of "fair value".

18. But there is another reason, not discussed in section I of the introduction of the SNA (nor in the rest of the SNA), for the difference in the value of net worth between the national accounts and the business accounting: the treatment of *provisions*. The term *provision* is used here whether it is affecting the liability side of the accounts or the asset side of the accounts. In business accounting, it is more appropriate to refer to *provisions* when addressing liabilities and *impairment of assets* when addressing the

[4] Section: "Links with business accounting and economic theory".

[5] Which are evolving as mentioned earlier, with the increasing use of the fair value concept.

changes in the value of an asset[6]. We will therefore try to use this more precise terminology in the rest of the paper.

19. It is the objective of the present paper to try to understand why this difference between SNA and business accounting exists and whether it is justified or not.

4. Some elements and definitions from business accounting

20. In business accounting, provisions are associated with other words, such as liability, impairment of asset, contingent liabilities. It is necessary to define better these words to clarify the debate. We will use below the definitions of the "IAS 37 Provisions, Contingent Liabilities, and Contingent Assets", as described by [4] and [5].[7]

- *A liability is a present obligation of the entity arising from past events, the settlement of which is expected to result in an outflow from the entity of resources embodying economic benefits or service potential.*

- *A provision is a liability of uncertain timing or amount. They should be recognised when a reasonable estimate can be made of the obligation.*

- *A contingent liability is:*

  (a) a possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity; or

  (b) a present obligation that arises from past events but is not recognised because:

  i. it is not probable that an outflow of resources embodying economic benefits or service potential will be required to settle the obligation; or

  ii. the amount of the obligation cannot be measured with sufficient reliability

21. It is important to note here the gradation in business accounting of the definitions between a present "liability" which is a strong present obligation, a "provision", which is included in the category liability, but is of "uncertain timing or amount", and "contingent liabilities" which are not really obligations because it depends on the occurrence of a future event. An example of a provision given by a business accounting manual is the probable costs of repairs under the guarantee formulated by a machine building corporation to its clients. Based on past experience and future expectations, the company will record a provision equal to the statistical expectation of future payments, based on past statistics of failure.

22. The difference between a provision and a contingent liability is that, in the latter case, the possible future outflow of resources is not yet certain, it depends on the future occurrence or non-occurrence of an event which is not in the control of the unit. Another example can be given to illustrate this. A local government entity may have breached an environmental law but it remains unclear whether any damage was caused to the environment. This can be considered as a contingent obligation. Where,

---

6 However, some business accountants do speak of "impairment provisions".

7 It should be noted that, while reference is essentially made here to business accounting, there are very advanced proposals to adapt these categories to public accounts. As such, governments will more and more record provisions and contingent liabilities.

subsequently, it becomes clear that damage was caused and remediation will be required, the entity would recognize a provision because the outflow is now probable[8].

23. The gradation between liabilities, provisions and contingent liabilities corresponds in business accounts to a gradation in reporting requirements. Liabilities are reported in the balance sheet. Provisions are also reported in the balance sheets but as a special category. Contingent liabilities are reported only as memorandum items. Changes in provisions impact the income statement, while changes in contingent liabilities do not.

24. The clear objective of these recommendations of business accounting is to have units to report the maximum of information on their real and future situation, weighted by probabilities of occurrence of the liabilities, in order to give the most transparent picture of the entity to users of the accounts (essentially shareholders). A lot of effort is made in business accounting recommendations to try to specify the different conditions that allow the classifying of those items into the different categories.

25. In this context, it seems to me, and this was confirmed by an expert in business accounting [3], that the idea, still quite common among national accountants, that provisions are window dressing categories, whose objective is to help CEOs to present their results to the markets in a way that suit them, is wrong. More and more, provisions are accounting categories that are defined and controlled by auditors, based on written recommendations and jurisprudence.

26. Regarding *impairment* of assets, business accountants (IAS 36) require that the recoverable value of an asset should be estimated whenever there is an indication that an asset may be impaired. An entity is required to assess at each balance sheet date whether there is objective evidence of impairment. Impairment is identified when the carrying amount of an asset falls below its recoverable amount. An impaired asset should be valued at the higher of its "value in use" or its "selling price". The "value in use" relies on the estimation of future cash flows associated with the asset, and applying an appropriate discount rate. Losses from the recognition of impairment of assets impact the income statement of the entity[9].

27. A special case must be made here regarding loans. Under the latest proposed amendments to IAS 39, all financial assets (including loans held to maturity) are to be subject to an "impairment test" at each balance sheet date. If it is probable that the holder of a financial asset will not be able to collect the entire principal or interest amounts due according to the contractual terms, an impairment or bad debt provision needs to be recorded.

28. This trend is confirmed by a recent paper from the IMF [6], which describes more and more banking supervisory pressure for banks to account for bad loans in a standard way. Owing to this paper:

(1) Even if they are not internationally standardized, bank accounting rules systematically include recommendations on the classification of loans, from "standard" to "loss loans" through "doubtful". Regulations tend to be more and more forward looking, in the sense that banks are asked to recognize as soon as possible in their accounts loans that are becoming problematic.

(2) The recognition of bad loans in the accounts is generally based on the creation of a provision in the balance sheet. This provision reflects the estimated loss of the loan value. In banking accounting, the cost of provisions constitutes a normal business expense and reduces bank profit[10].

---

[8] Or record a liability directly if the amount and timing is certain.

[9] It is possible for this to be avoided by use of an asset revaluation reserve (see IAS 16).

[10] The reverse is true: reducing bad debt provisions increases bank profit.

(3) While the situation may vary from country to country, it is admitted by economists that provisions for bad loans should be recognized as costs by the tax authorities, to provide a strong incentive for banks to adequately provision and to do so in a timely fashion.

29. Overall, the picture given by business accounting principles on the treatment of provisions, contingent liabilities, or impairment of assets, is one of increasingly detailed recommendations in view of better information on the net worth of the entity, with a subtle gradation between these categories.

30. From this section, one should retain the difference made between contingent liabilities and provisions, the first having the status of memorandum items, the second being included in the core accounts.

5. Provisions, contingent liabilities and impairment of assets in the SNA

31. It is surprising, in this context, that the SNA gives so little room to these accounting entries. Basically the SNA rejects all provisions and contingent liabilities in the black hole of "memorandum items".

32. The principle of the treatment of contingent liabilities and provisions is summarized in paragraph 13.22: *"Two major exclusions [from the list of financial assets and liabilities] should be noted. First contingent assets and liabilities are treated as financial assets only if the claim or liability is unconditional to both parties and/or the arrangement has an observable value because it is tradable. Otherwise, contingent assets or liabilities are not treated as financial assets or liabilities in the System, as discussed in Chapter 11. Secondly, sums set aside in business accounting to provide for transactors' future liabilities, either certain or contingent, or for transactors' future expenditures generally are not recognized in the System (the only "provision" recognised in the System is accumulated consumption of fixed capital). Only actual current liabilities to another party or parties are explicitly included. When the anticipated liability becomes actual –for example, a tax lien- it is included."*

33. The SNA definition of "contingencies" can be found in paragraphs 11.25-26: *"Many types of contractual arrangements between institutional units do not give rise to unconditional requirements either to make payments or to provide other objects of value; often the rearrangements themselves do not have transferable economic value. These arrangements, which are often referred to as contingencies, are not actual current financial assets and should not be recorded in the SNA. The principal characteristic of contingencies is that one or more conditions must be fulfilled before a financial transaction takes place. Guarantees of payment by third parties are contingencies since payment is only required if the principle debtor defaults. [...].*

11.26. For the purpose of the SNA, the treatment of contingencies is clear. Any payment of fees related to the establishment of contingent arrangements are treated as payments for services. Transactions are recorded in the financial accounts only when an actual financial asset is created or changes ownership. However, by conferring certain rights or obligations that may affect future decisions, contingent arrangements obviously produce an economic impact on the parties involved. Collectively, such contingencies may be important for financial programming, policy, and analysis. Therefore, where contingent positions are important for policy and analysis, it is recommended that supplementary information be collected and presented as supplementary data in the SNA."

34. Nothing much more is said on provisions in the SNA. A thorough scanning of the entire 700 pages of the SNA on the word "provision" (i.e. as an accounting entry) only results in four hits:

- paragraph 10.140 which confirms that provisions for bad debts are not recognized but does not explain why: *"provisions for bad debt are treated as book keeping entries that are internal to the enterprise and do not appear anywhere in the system"*.
- Paragraph 13.22 which says *"the only "provision" recognized in the System is accumulated consumption of fixed capital"*,
- and paragraphs 12 and 47 of Annex IV which refer to *pension provisions*, but do not discuss them in principle.

35. In my view, the statement in paragraph 13.22 which says that the only provision recognised is consumption of fixed capital is not only abrupt but is in fact wrong. There are « provisions » which are recognised but not (yet) called « provision » in the SNA: it is all the "non life insurance provisions". The recent report of the task force on the measurement of insurance production recommended that these entries be called explicitly provisions in the SNA. But a part from this detail, one can summarize the recommendations of the SNA based on these paragraphs:

(1) only fully recognised non contingent present liabilities are recorded in the accounts,

(2) no difference is made between contingent liabilities and provisions, both are excluded from the SNA,

(3) impairment of assets such as loans is not recognised,

(4) all contingent liabilities and provisions "can" be reported in vague "memorandum" tables[11].

36. It is interesting to note that the main "contingent liability" referred to in the SNA concerns guarantees (essentially of loans). The SNA is very clear in this respect: guarantees are considered contingent liabilities and are thus excluded from the list of financial assets. This is particularly relevant for the government accounts. Certain governments heavily use the tool of guarantees to, generally, public or partly public enterprises. This exclusion is currently discussed in the Task Force on Harmonization of Public Sector Accounts and in several other fora. The current exclusion of provisions for guarantees in the SNA would probably come as a surprise for business accountants of entities which are specialized in issuing guarantees. For example, export credit agencies make their business in issuing guarantees. The example developed in the previous section on provisions for repair costs leads me to think that the accounts of these entities would show, under business accounting standards, an entry "provision", which amount would be based on the probable occurrence of the guarantee based on past experience. Under business accounting standards, changes in this amount would impact the income statement of such an entity. On the contrary, nothing would happen in the SNA accounts of this entity. This information would be ignored despite its explicit recognition by the economic unit itself. In fact, the treatment of these agencies could be paralleled with the treatment of insurance: indeed, they are the insurers of exporters. If this direction of work is accepted, the provisions for expected losses should enter into the scope of the system and not be excluded, as today.

37. This general ignorance of provisions becomes more surprising when analysts are more and more interested in building macro-information on provisions and contingent liabilities. For example, the recent Asian and Latin American financial crisis have prompted the international experts on the measurement of external debt statistics to introduce a complete chapter recommending the publication of tables

[11] o country, to my knowledge, publish supplementary tables on provisions and contingent liabilities in the framework of the national accounts.

incorporating contingent liabilities[12]. Also, a recent paper circulated by the European Commission sets a tentative program for the definition, collection and monitoring of contingent liabilities, based in particular on the increasing concern regarding the issuance of non reported government guarantees [7].

6. Why this difference with business accounting on *provisions* and *impairment of assets*?

38. We have seen in section 4 that one of the main differences between national accounts and business accounts was the *valuation* of assets and liabilities (market price for the SNA, historical price for business accounts). As shown, this difference can be explained for economic reasons: market prices are supposed to better reflect the economic situation of the unit. We have also just seen that both systems exclude pure contingent liabilities from their core accounts. The common sense reason for this exclusion in both systems is that sound accounting should distinguish present *certain* future obligations from possible, *uncertain* future obligations. Analysts should be able to make this difference to assess the net worth of the entity.

39. What is more puzzling is that the SNA does not make the difference that business accounting makes between provisions and contingent liabilities.

40. In my view, the reason is probably not that the national accountants are insensitive to the difference of degree between a provision and a contingent liability. From the point a view of a single unit, I see no reason that the amount of net worth in the SNA differs from the business accounting measure regarding the taking into account of provisions and impairment of assets. In other words, if the economic unit recognizes these risks, it is difficult to see the reason that they should not be reported in the macro-economic framework for this entity. This is in particular true for central government, for example.

41. Thus the key reason for the SNA to reject provisions and impairments of assets outside the scope of the accounts is not that it has a problem with the concept itself, for a given entity. It is that provisions do not satisfy the constraint in national accounts to obtain a "quadruple entry" system, the so-called "symmetry" of the accounts. This is not explicitly explained in the SNA, but has been confirmed by the recent debate on the accounting of non performing loans.

42. The principle of symmetry is set in one small sentence of the SNA:

Paragraph 2.67: "*again, following the quadruple entry principle, a transaction must be recorded at the same value through all the accounts of both sectors involved. The same principle applies to assets and liabilities*".

43. In the view of the SNA, provisions and impairment of assets do not satisfy this constraint and thus are rejected. Indeed, provisions and impairment of assets reflect the view of one single institutional unit on its assets and liabilities versus other economic agents which, themselves, maybe do not recognize this probable asset/liability. For example, no counterpart asset "future repairs" is reported by any single client of the manufacturing company which records a provision for probable future repairs in its accounts. At first glance, one could therefore say, that provisions are asymmetric by construction. We will see later that this is not completely true.

44. In this respect, provisions and contingent liabilities are the same for the SNA: both are "non symmetrical". Thus the gradation between provisions and contingent liabilities of the business accounts is

[12] Joint BIS/Commnwealth/Eurostat/IMF/OECD/Paris Club/INCTD/WB publication (technically, the publication is made by the IMF): External Debt Statistics : guide for compilers and users. http://www.imf.org/np/sta/ed/guide.htm

ignored because both do not fit the symmetry "principle" of the SNA, which is illustrated in several paragraphs of the SNA.

45. National accountants had therefore to choose between the necessity to follow the "quadruple entry principle" and the situation of "provisions" which are non symmetrical. The SNA 93 has resolved the issue by rejecting provisions outside the system. In particular, impaired loans (also called provisions for bad debts) are excluded from the SNA balance sheets not because this information is not useful but because one cannot apply these provisions to the counterpart party who is the debtor. A provocative critic of the SNA could therefore say that the SNA does not want to show a fair image of the balance sheet of banks (taking into account the provisions for bad debts), only because this image cannot be applied to the corresponding debtor accounts. If this user is only interested in the banking sector, this will certainly appear to him as an insufficient reason.

46. One important consequence of the non recognition of provisions and impairment of assets is that there are abrupt statements in the SNA that discourage any appropriate treatment of specific events. One of these abrupt statements, for example, is that loans are to be valued at nominal value, in all cases (i.e. even if it is impaired in the creditor's accounts). The consequence of this statement can be illustrated in a recent case treated by Eurostat on financial defeasance. The reference here is Eurostat's "Manual on Deficit and Debt" which is a major interpretative guide to the SNA/ESA for general government accounts. Chapter II.5.2 of this Manual treats the case of a financial defeasance. The Manual presents the situation in the following terms: "*In recent years, there has been instances of public authorities intervening when financial institutions –banks, insurance, corporations or financial groups – have faced difficulties because of their involvement in assets which proved of a bad quality.[...] Intervention of general government may take various forms: [...] among which that the government buys directly the bad assets from the financial institutions.*"

47. The manual describes then what to record when the government buys the bad assets at their face value: *"a capital transfer should be recorded when government buys the assets from the financial institutions. The amount of this transfer, paid by government, is equal to the difference between the amount paid for buying them and their true value"* (underlined by me). The Manual then discusses of the methods to estimate the true value (i.e. the market value) of the different assets (which include real estate, shares and loans) but, of course, is obliged to face the specific problem of loans. As government bought back bad loans at their nominal value, one would expect that this should lead to the recording of a capital transfer equal to the difference between the nominal value and the impaired value of the loan, when this loan has been provisioned. But, as explained in the Manual (whose guidelines can only strictly follow the letter of the ESA), this is impossible because the SNA/ESA states that loans have only one value in the System, the nominal value. The Manual is also obliged to recognize that the SNA/ESA states *that "provisions for bad debts [...] do not appear anywhere in the system"*. Thus the Manual concludes: *"The notion of "fair value" commonly used in business and banking accounting systems, is not recognized for loans in the system of national accounts"*[13].

48. The apparent consequence is that national accountants cannot record the transaction for these provisioned loans in a similar way as the transaction on other assets because of the definition of the valuation of loans, and despite the fact that business information is given on the true value of the loan when the entity recognizes a provision on the loan!

[13] In passing, the Manual mentions the traditional lack of confidence of national accountants on provisions, which I commented in a previous section: "*Practical considerations also forbid taking into account provisions because they may be subject to manipulations*".

49. I believe therefore that this situation should not be left as it is. But before trying to propose a solution, it is important to understand why the SNA imposes this "quadruple entry framework" as a superior principle to the one of taking into account the business accounting information delivered by the units.

7. The aggregation problem

50. As we have seen previously, it is difficult not to accept the argument developed in this paper that the information content of the balance sheet of a single unit will be improved by incorporating provisions and asset impairment. However, national accounts deal essentially with institutional sectors (i.e. the aggregation of numerous institutional units), not single institutional units.

51. It is easy to show using a very simple example that there is an obvious aggregation problem with balance sheets that include entries with no counterparts. Let's take the example of the provision for repair guarantee.

52. Manufacturer M records a provision for repair guarantee for its clients. Its balance sheet appears as:

Balance sheet of M, manufacturer
Assets:
Non financial assets : MNA
Financial assets : MFA
Liabilities :
Shares : MSH
Financial liabilities : MFL
Provision for repair guarantee: P
Net worth, *after provision* : MNA + MFA – MSH – MFL – **P**

Here is now the balance sheet of one of the client (C) of this manufacturer, who has a non-zero probability of using in the future the repair guarantee. However, this is not recorded in his accounts, as it is a contingent asset.

Balance sheet of C, client
Assets:
Non financial assets : CNA
Financial assets : CFA
Liabilities :
Shares : CSH
Financial liabilities : CFL
Net worth, *after provision* : CNA + CFA – CSH – CFL

Finally, the national accounts will aggregate the accounts of M and C, in the same institutional sector, "Corporations", and compile its net worth. This is obtained by simple sum of the lines.

Balance sheet of Corporations M+ C
Assets:
Non financial assets : CNA + MNA
Financial assets : CFA + MFA
Liabilities :
Shares: CSH + MSH
Financial liabilities: CFL + MFL
Provisions: P
Net worth, *after provision*: [CNA + MNA] + [CFA + MFA] – [CSH + MSH] – [CFL + MFL] **– P**

The obvious question is whether it is appropriate or not to subtract P from the net worth of the "Corporations M+C" sector? The answer is that it is probably better to eliminate the impact of the P on the net worth of the total M + C as P has in fact an "implicit" counterpart in the balance sheet of C, the client.

53. The same type of reasoning could be made on the case of non performing loans, with, on one side, banks recording impairments for bad loans (but not recorded by their clients). Should the net worth of the Nation (= banks + clients) be calculated including the subtraction of those asset impairments (who will possibly benefit in the future to the clients) or not? It seems to me natural to answer that, indeed, the aggregate net worth should not be affected by provisions or by the value of impaired assets *that are internal to the aggregation*. However, the provisions or impaired assets *that are external to the aggregation* remain a relevant value to be subtracted from the net worth of the aggregate. In other words, the net worth of all banks should not take into account bad loans *between banks*, but take into account *bad loans versus the non banking sector*.

54. Expressed in those terms, I feel the debate can become less theological and more practical. There is clearly a consolidation issue, but this is not sufficient to sustain that a "major principle" of national accounts conflicts with the introduction of provisions and impaired assets in the accounts. If the only problem is a consolidation problem, one should be able to find a flexible way of incorporating provisions in the scope of the SNA, that would allow, at the same time, showing a relevant net worth before and after provision and impairment of assets (versus other institutional sectors).

8. Counterparts are sometimes identifiable, but sometimes not

55. The first point to be made is that some provisions have, in fact, counterpart recordings, either explicit or implicit. This means that, contrary to what was said previously, provisions are not systematically asymmetric. Jean-Paul Milot [3] explains that provisions can be classified in two categories: (1) *contractual provisions*, which correspond to an obligation towards an identifiable party, (2) *legal or implicit* provisions for which third parties cannot be easily identified when the obligation is created.

56. In the first case, national accountants should be able to find counterparts and, thus avoid, the aggregation problem. A typical case is the provision corresponding to future pension obligations of employer defined benefits schemes. To this provision, which appears in the sponsor's balance sheet, could correspond, in the national accounts, a quasi-asset by the employees of the firm. In fact, all the discussion of the EDG on pension scheme turns alongside this incorporation of pension provisions in the core national accounts.

57. The case of impaired assets, and specifically bad loans, is even clearer at least regarding the identity of the third party. In principle, the recognition of the impairment is based on the analysis of the solvency of a given debtor. Thus, by construction, this debtor is an obvious candidate for the counterpart

to the value of the impairment. However, it is not obvious that such an adjustment to the net worth of the debtor is a good thing. On a micro-economic basis, the debt continues to appear in its full value in the accounts of the debtor, and not at a reduced value. It is therefore not obvious that the macro-accounts should impose this value to the debtor's accounts. Such a treatment is even most of the time received as a provocation by analysts of the counterpart sectors. More, some specialists argue that such a treatment could have significant adverse consequences on the financial markets. For example, experts of statistics of external debt of developing countries cannot accept that these countries record in their accounts the provisions that are possibly recognised by the rich creditor countries. Debtors are supposed to pay the whole amount, even if creditors think many of them will not be in a position to pay.

58. The third case is even more difficult. A typical situation would be one regarding the legal obligation made to a firm, for environmental reasons, to dismantle in the future an investment made today. Under business accounting, this firm must record a provision equal to the present value of the cost of the dismantling. In this case, the future outflow corresponding to the cost of the dismantling cannot be attributed to an identifiable counterpart. Nobody knows who, in twenty or thirty years, will be paid for the dismantling. Jean-Paul Milot suggests that national accountants could record the counterpart quasi-asset in the accounts of the general government, which would hold this quasi-asset in the name of society. I must recognize I have not covered all the implications of this proposal.

59. One can therefore conclude from this section that there are three types of provisions. First the ones for which a counterpart is identifiable, and, at the same time, counterpart entries can be recorded in the accounts. Second, the ones that have identifiable counterparts but for which there is a debate whether it is relevant to *show* this counterpart entry in the accounts. Third, the ones which have no identifiable counterparts.

60. Let us try to find a practical solution allowing all these provisions to be recorded inside the accounts.

9. Toward a pragmatic solution to incorporate provisions and impaired assets in the SNA

61. My proposal to incorporate provisions and impaired assets in the SNA is simple: create a table on *changes in provisions* and *impairment of assets* which would come as an additional table, just after the "other changes in volume" account and just before the balance sheet[14]. In addition, the balance sheet would include the traditional value of assets and liabilities under the current SNA valuation rules *plus* the stock of provisions and value of impairments.

62. The originality of the proposal is that it accepts the principle that these tables are not symmetrical. This is the price to pay for the incorporation of this economic information in the accounts. In my view, it is a small price for a problem which finally boils down into a problem of consolidation. The table would be constituted in three parts corresponding to the three types of provisions described at the end of the previous section.

63. When, by convention, national accountants agree that a certain type of provision has an identifiable counterpart and that it is relevant to record a counterpart entry in the corresponding institutional sector account, this provision would be recorded so in both accounts. The proposed sub-table would be symmetrical. This situation would correspond for example to the case of the quasi-liabilities of unfunded pension schemes or of social security. The provision is recorded in the accounts of the sponsor and a counterpart entry would be households. One could wonder why these records should not be totally

[14] An alternative which would avoid creating an additional table would be add some specific lines in the "Other changes in volume account"

incorporated in the SNA accounts, as transactions, because they appear as symmetrical "transactions". The flexibility introduced by this proposal is that these quasi-liabilities would still be distinguished from the normal liabilities of the SNA, showing clearly their specific nature. As a consequence, they would not be treated as transactions, and in particular would not affect B9 net lending/borrowing (see next section).

64. When, by convention, national accountants agree that certain type of provisions do have an identifiable counterpart but that it is not relevant to show the counterpart entry in the accounts of the corresponding institutional sector, the proposed tables would not be symmetrical. The provision or impairment would only appear on the account of the institutional sector that covers the entity that recognizes this provision. However, the information on counterparts should not be lost. Using this information, the provisions and impairments would be consolidated. Those that are internal to the published aggregate would be eliminated. Thus at the end, only provisions and impaired assets that are *external* to the aggregate would be shown.

65. A typical example of this second situation would be impaired loans. Impairment of loans would be shown as a devaluation of the assets of banks, but would not appear on the balance sheet of debtors, which would remain at nominal value. At the same time, using the information on counterparts, the value of impaired loans would be consolidated. For example, the value of the provisions recorded by banks which correspond in principle to loans to other banks would be eliminated. At the end, the balance sheet of all banks will only show the provisions *on other sectors*, which is the expected relevant information at this level of macro-economic accounts. In other words, this special entry would be, by convention, systematically consolidated. The flexibility of the proposal is that it allows the inclusion of the concept of impaired loans in the SNA following the point of view of the creditor, but avoiding at the same time the aggregation problem and the difficult issue of deciding whether to impose the impaired value to the debtor. As a result, the new SNA would be able to show a better macro-economic indicator than the current one, taking into account the macro-information on bad debts of creditors, without imposing this information to the debtor's account. The same is true of the net worth of the Nation which picture is improved by taking into account the provisions on foreign loans.

66. There remains the third case of provisions that do not have identifiable counterparts. In this case there is no possibility of avoiding the consolidation problem. In my view, this should not preclude the incorporation of this information in the SNA and the aggregation to be conducted, even if it implies implicit double counting. The advantage of having these provisions inside the scope of the SNA is greater than the disadvantage of showing aggregate values that contain some double counting. After all, the SNA and existing national accounts table already contain many aggregates which include heavy "double counting", as the accounts are not consolidated. An example among many others: the amount of dividends paid by corporations is very often not consolidated and thus contains dividends that are paid to other corporations. This does not preclude the national accountants to publish this figure. In the same way, the amount of provisions that are not "consolidable" will include possible double counting. It does not preclude this information to be useful.

67. One could consider that my proposal which creates specific entries for provisions and impairment is akin to a memorandum item. In some sense, this is true. As explained my proposal clearly separates the provisions from the rest of the accounts. They come as additional to the existing information, which is not affected by this addition. In that sense, it can be considered as similar to "memorandum items".

68. But, at the same time, the proposal goes further than traditional memorandum items in that it recognizes the existence of the provision or the impairment in the core accounts. In other words, the SNA would recognize that the existence of a provision for bad loan means that the market value of this loan is probably close to this provisioned value. The SNA would recognize that there are quasi-liabilities of social security systems, and thus foster the estimation of these quasi-liabilities. The SNA would recognize

government guarantees, would be able to estimate and record their cost. In that sense, the proposal is more than memorandum items.

10. Conclusion

69. This paper is certainly incomplete and too general. A case by case study of all provisions would be useful[15]. Also, the paper does not cover the practical issues of collecting information on provisions, and possible counterparts. However, its objective would be achieved if readers would have been convinced that there is no "major" principle of the national accounts that should preclude *by principle* the recognition of provisions and impaired assets in the core accounts.

70. There are certainly some consolidation issues, but the paper shows that they are limited, and that a pragmatic solution can be found that allows making the accounts more informative and useful to users, without affecting the existing core system. In particular, B9 net lending borrowing would not be directly affected by *changes in provisions* or *impaired assets*. It will remain the main balancing item of the part of the accounts that are about *transactions*. Thus provisions and impaired assets would remain separate from *transactions*, which definition would remain unchanged. This is far from a revolution....

[15] In particular, the complex case of deferred tax provisions should be examined closely.

Bibliography

[1] Relationship between Macroeconomic Statistical Guidelines and Accounting Standards, Lucie Laliberté, IARIW, Cork, August 2004, http://www.econ.nyu.edu/iariw/papers/lali.pdf

[2] La comptabilité nationale face aux transformations de la finance et de la comptabilité, pages 21-24, André Vanoli, Forthcoming, Revue d'Economie Financière, 2004. English translation forthcoming. Draft version of February 2004 available on http://www.insee.fr/fr/nom_def_met/colloques/acn/colloque_10/vanoli.pdf ..

[3] Les provisions et les corrections de valeur en comptabilité nationale et en comptabilité d'entreprise, Jean-Paul Milot, mimeo, Août 2004.

[4] Handbook of International Public sector Accounting Pronouncements , 2003 edition, International Federation of Accountants ,

[5] Comparison between IAS and ESA 95: implications for financial accounts and non-financial accounts, Anders Nordin and John Verrinder, CMFB 03/06/B.9.b, June 2003

[6] Loan review, Provisioning, and Macroeconomic Linkages (L. Cortavarria, C Dziobek, A. Kanaya, I. Song). IMF. http://www.imf.org/external/pubs/ft/wp/2000/wp00195.pdf

[7] Budgetary risks and contingent liabilities, European Commission, Internal memo odf the ageing working group, ECFIN-50266-EN, August 2004-09-07

For Official Use **STD/NAES(2004)9**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

28-Sep-2004

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)9
For Official Use

National Accounts and Economic Statistics

APPENDIX ON GENERAL GOVERNMENT: RECORDING TAX REVENUE AND TAX CREDITS

PROPOSAL FOR THE NEW SNA

This document has been prepared by Jean-Pierre DUPUIS - OECD (Statistics Directorate)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12-15 October 2004
Tour Europe, Paris La Defense

Beginning at 9:30 a.m. on the first day

For further information please contact:
Jean-Pierre Dupuis
E-mail: jean-pierre.dupuis@oecd.org

JT00170128

English - Or. English

APPENDIX ON GENERAL GOVERNMENT:

RECORDING TAX REVENUE AND TAX CREDITS

PROPOSAL FOR THE NEW SNA

Issue 1: Definition of taxes

In the revised SNA, the present §7.48 and 8.43 should be modified in the following way:

"Taxes are compulsory, unrequited payments, in cash or in kind, made by institutional units to government units. They are described as unrequited because the government provides nothing directly in exchange to the individual unit making the payment, although governments may use the funds raised in taxes to provide goods or services to other units, either individually or collectively, or to the community as a whole."

Comments, comparisons:

- *with the present SNA: "nothing directly in exchange" replaces "nothing in return"*
- *with GFSM2001: no difference in substance with GFS definition (§4.21)*
- *with ESA95 Manual on government deficit and debt (EMGDD): no difference*
- *-with IPSAS (from IFAC-PSC, and ITC):consistent with the notion of "non-exchange transaction".*

Issue 2: Accrual recording of taxes

In SNA 93, §7.59-60 and 8.49-50 are to be replaced by the following wording, exposed in three new paragraphs (P.1:introduction, P.2: time of recording, P.3: amounts to be recorded):

P.1: Like most transactions in the SNA, taxes and social contributions are to be recorded on an accrual basis (see also chapter 2 and 3). Accrual recording means basically that flows are recorded when economic value is created, transformed, exchanged or extinguished and not when cash payments are made. In addition, it may be considered that this implies– like for accrued interest – that the flows recorded at this time are amounts due as the consequence of the underlying economic event, under the tax law.

The implementation of this general recommendation for taxes and social contributions leads to consider successively the two questions:

- the time of recording
- the amounts to be recorded

Comments, comparisons:

- *with SNA and GFSM2001: clarifies that accruals raises both the question of the time and of the amounts*

- *with EMGDD: no difference*

P.2: Time of recording:

This is when the activities, transactions or other events occur which create the liability to pay taxes - in other words, when the taxable events occur -, and not when they are actually paid. In the case of taxes, this usually means when income is paid or when a transaction (purchase of goods and services etc.) generating the liability is made.

Some flexibility is permitted in two cases:

- Parallel economy: some activities, transactions or events escape the attention of the tax authorities1. It is then difficult to put in relation the liability to pay taxes and the taxable economic event. Notwithstanding the fact that the amounts to be recorded can be determined only when the tax assessment is made, some flexibility should be accepted concerning the time of recording in the System. If it cannot be the time of the taxable event itself, it may be the time of the tax assessment.
- Taxes on income: in some cases, depending on the tax system, the liability to pay income taxes can only be determined in a later accounting period than that in which the income accrues and becomes taxable. This is the case when amounts due are evidenced and known with sufficient certainty only through tax assessments, declarations etc. The case of prepayment of taxes may also be considered as specific.

Therefore, in these two cases, the relevant time of recording the taxes may be not the time when they accrued (the time when the economic event generated the obligation to pay taxes), but the time when the taxes were known as due to be paid with sufficient certainty. This is not necessarily similar to the accounting period of the payment. However, in the specific case of prepayed taxes on income, the accounting period of the payment may be considered as the relevant one.

Comments, comparisons:

- *with SNA: extends cases where flexibility is permitted (for the amounts) to the time of recording, when it is due to be paid*
- *with GFSM2001: idem*
- *with EMGDD: no difference in substance*
- *Side question(with IPSAS): is the tax gap equivalent to the amount of uncollectible taxes. Should this be clarified?*

P.3: Amounts to be recorded

Like other transactions, accrued taxes are often understood as due amounts of taxes (or amounts of taxes due to be paid), as generated by the underlying economic event. However, recording accrued amounts of taxes and social contributions - at the time they are due or generated - should not lead to record amounts that are known to be uncollectible, or unlikely to be collected. The net borrowing / net lending of the general government should not be artificially improved by the recording of amounts of taxes which are unlikely to be uncollected.

---

[1] Parallel economy is a major factor explaining the difference between what the government is entitled to collect under the tax law and what is really collectible. This difference is often referred to as the "tax gap".

With respect to *amounts of accrued taxes*, the recommendation is to record in national accounts:

- either, amounts assessed as due adjusted by a coefficient reflecting the assessments never collected (in the recent past). Thus, the amounts of accrued tax are written down according to this adjustment, in such a way that uncollectible taxes are not recorded as government revenue. An adjustment on the revenue side of the general government is preferable to an adjustment on the expenditure side (and therefore preferable to a capital transfer for example).
- or, amounts actually paid. Nevertheless, these cashed amounts of taxes should be recorded at the time they were accruing. This method is often referred to as the time-adjusted cash basis of recording.

A combination of both methods is possible.

Comments, comparisons:

- *with SNA: clarifies that uncollectible taxes should not be part of government revenue, recommends the use of a coefficient, does not limit the recording of (time-adjusted) cashed amounts to special cases*
- *with GFSM2001: no difference in substance*
- *with EMGDD: no significant difference in substance, except that the recording of a capital transfer is not considered as relevant as the method of coefficient.*

Issue 3: Tax credits

Paragraphs to be added ex-nihilo to the SNA

Definition:

It is common that tax systems comprise elements of social redistribution (tax scales, marginal tax, impact of the size of the household, of the number of children etc.). This does not influence the recording of taxes in national accounts. Tax credits may be one element of such redistribution.

A tax credit is a reduction of tax offered to households or other entities – most often of tax on income – which is embedded in the tax system. To be recorded as such, this reduction should be part of the tax system, calculated on the same base and over the same time period like taxes. Individual information should be available through the tax statement of households or other entities benefiting from the measure.

a) Case of "non-wastable tax credits": non-wastable means that the total amount of the credit may exceed the amount of tax due, and that the element of the credit in excess over the tax due is to be paid by the government to the taxpayer.

The part of the tax credit that exceeds the taxpayer's liability and is paid to the taxpayer should be treated as an expenditure transaction (most often a social benefit) and not be deducted in the reporting of global tax revenues.

b) Borderline with social benefits and subsidies

Some social benefits (like retirement pensions) and subsidies (to corporations for hiring specific categories of workers, young or handicapped workers etc.) should not be recorded as tax credits – deducted from due taxes - just because they may be netted from the amounts of taxes due to be paid in some circumstances. There should be no global netting of tax liability and benefits or subsidies resulting in a decrease of the tax burden.

The recording of tax credits should meet some criteria:

- The tax credit measure must appear as part of the tax law, the tax code and on tax statements. To that extent, could only be deducted from a given tax, amounts that are calculated on the same base as the tax (usually the income), and over the same period of time. Thus, possible VAT reimbursement to specific categories of the population cannot be deducted from the tax on income.
- The amount recorded as tax credit – deducted from tax due – cannot exceed the amount of tax due by beneficiaries. Individual information must be available through the tax statement of households or other entities benefiting from the measure. The element due in excess to tax is an expenditure of government.

For Official Use **STD/NAES(2004)10**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)10
For Official Use

National Accounts and Economic Statistics

TASK FORCE ON HARMONIZATION OF PUBLIC SECTOR ACCOUNTING

DRAFT AEG PAPER

GOVERNMENT/PUBLIC SECTOR/PRIVATE SECTOR—DELINEATION ISSUES

This paper has been prepared by Graham JENKINSON - Office of National Statistics (United Kingdom)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12-15 October 2004
Tour Europe, Paris La defense

Beginning at 9:30 a.m. on the first day

For further information please contact:
Graham Jenkinson
E-mail: Graham.Jenkinson@ons.gsi.gov.uk

English - Or. English

TABLE OF CONTENTS

ACRONYMS

GBE	Government business enterprise
GFSM	*Government Finance Statistics Manual 2001*
ESA 95	*European System of Accounts 1995*
IFAC	International Federation of Accountants
IPSAS	International Public Sector Accounting Standard
NPI	Nonprofit institution
PPP	Public private partnership
PSC	Public Sector Committee
SNA	*System of National Accounts 1993*
SPV	Special purpose vehicle
TFHPSA	Task Force on Harmonization of Public Sector Accounting
WGII	Working Group II, TFHPSA

TASK FORCE ON HARMONIZATION OF PUBLIC SECTOR ACCOUNTING

DRAFT AEG PAPER

GOVERNMENT/PUBLIC SECTOR/PRIVATE SECTOR—DELINEATION ISSUES

Executive Summary

A Introduction

The Task Force on Harmonization of Public Sector Accounting is examining the possibilities of harmonizing the economic and financial accounting approaches to general purpose reports of the economic activities and classification of public sector organizations. One of the critical steps in harmonization is an accurate delineation firstly, of the public and private sectors, and, secondly, of the general government sector and public corporations.

This paper investigates two issues about public sector entities. Do the SNA principles and guidance lead to the correct identification and delineation of public and private sector statistical units and within the public sector, units **engaged** primarily in either commercial or governmental activity?

B The Public Sector

The public sector is defined in *System of National Accounts 1993* (the SNA) as the national, regional, and local governments plus related governmental entities. Problems arise in relation to identification of related governmental entities.

In general, a related governmental entity is included in the public sector if it is controlled by a government, which means it is important to use the same definition of control for economic statistics and financial accounting. The entities under consideration are institutional units in the SNA, **further clarification in the SNA on these units is recommended**. A related governmental entity might be an entity that can be a source of financial gain to the government that controls it because it produces goods and services and sells them at market prices (referred to as corporations in the SNA) or it might be an entity that cannot be a source of financial gain to the government regardless of the prices for which it sells the goods and services it produces (nonprofit institutions). Governments exert control over these two types of entities differently.

Control of corporations

In the SNA, a government controls a corporation if it has the ability to determine the general corporate policy. In the International Public Sector Accounting Standards (IPSASs) issued by the International Federation of Accountants Public Sector Committee, a government controls a corporation if it has the power to govern its financial and operating policies so as to benefit from its activities. The power to receive a benefit from the controlled entity is not part of the SNA definition. **It is recommended that the**

definition of control in the SNA [SNA 4.30] be extended to include the power to receive a benefit. Benefits, in the case of government, do not include the receipt of tax payments. **Development of a decision tree on establishing control of another entity in the SNA is recommended, together with elaborations of the definition similar to those found in the IPSASs.**

The difference in the definitions is relevant to corporations for which the government involvement is as a fiduciary, such as pension funds for government employees.[1] Such units are included in the public sector in the SNA but not in the IPSASs. **The proposed change to the SNA definition of control will result, correctly, in the classification of these units to the private sector.**

The public sector in the SNA includes only resident institutional units. The SNA should recommend the **maintenance of separate records of domestic and foreign subsidiaries so that the correct economic statistics can be derived.**

Special purpose vehicles (SPVs) have become important, particularly for securitization operations, but they can be used for a wide variety of purposes.[2] In addition, it is possible for a government to form a joint venture with a private entity. By definition, control of these ventures is shared so that the units are neither public nor private. **Guidance should be provided in the SNA for identification and treatment SPVs and public-private joint ventures.**

Corporations jointly controlled by several government units or other public corporations, within an economic territory, are public corporations in the SNA, **although more specific guidance should be added to confirm that conclusion.**

Control of nonprofit institutions

It is not clear which nonmarket nonprofit institutions are part of the public sector in economic accounting. Although the criteria for determining control of NPIs is the same as for corporations, such criteria may not be applicable as the methods of controlling NPIs differ to those of corporations. For nonmarket NPIs it is not clear whether the requirement to be mainly financed by government is part of the control definition criteria or an additional requirement. **Further clarification is required in the SNA.**

C General Government Sector

Once the coverage of the public sector is clearly defined and harmonized between economic statistics and financial accounting, **there is a need to classify public sector entities as either engaging in market or nonmarket production, i.e., as being in the public corporations sector or general government sector respectively.** In the SNA, an institutional unit is a market producer if it charges economically significant prices for all or most of its output. The definition of an economically significant price is, however, quite vague and has been the subject of debate ever since the SNA was published. **There is a great need to explain more fully the concept of market/nonmarket production and economically significant prices so that it can be applied in practice more uniformly.**

---

[1] An electronic discussion group (EDG), hosted by the International Monetary Fund (IMF) is examining pension schemes, http://www.imf.org/external/np/sta/ueps/index.htm.

[2] Working Group II (WGII) of the TFHPSA has an interest in these units as part of its consideration of privatization.

D Conclusion and Recommendations

In order to harmonize economic and financial reports for the public sector, it is recommended that the SNA definition of control be extended to align with the financial accounting definition of control in the IPSASs.

There are many areas in the SNA where guidance on the identification and treatment of units is absent or insufficient, leading to interpretation and inconsistency of treatments across countries. It is recommended that additional guidance or further elaboration be included in the SNA.

The main recommendations are:

Public sector boundary:

- Change the definition of control in the SNA to include:
  - The power to receive a benefit from the controlled entity
  - Explanation that the power to control must be presently exercisable and that regulatory powers do not imply control
  - Use of a decision tree
- Clarification and elaboration in the SNA of:
  - Definition of an institutional unit
  - Classification of nonprofit institutions
  - Distinction between foreign and domestic operations of public corporations
- Guidance in the SNA on how to evaluate and classify:
  - Special purpose vehicles
  - Public joint ventures
  - Public-private joint ventures

General Government Sector:

- Clarification and elaboration in the SNA of:
  - Concept of market/nonmarket production
  - Economically significant prices

I. Introduction

1. The Task Force on Harmonization of Public Sector Accounting (TFHPSA) is examining the possibilities of harmonizing the economic and financial accounting[3] approaches to general purpose reports of the economic activities and classification of public sector organizations.

[3] "Economic statistics" and "economic accounting" are used here as interchangeable terms for macroeconomic statistics and the methodological foundation underlying them. The principal manual reflecting the goals and methodological standards of macroeconomic statistics is *System of National Accounts 1993*, which will be referred to as "the SNA." The *Government Finance Statistics Manual 2001* (*GFSM*) is identical with the SNA with regard

2. The economic and financial accounting reports produced for the general public summarize the same economic events, but the two types of reports are used for different purposes. Users of the reports are likely, however, to be confused when two reports about the same activities of the same entities are different and not obviously reconcilable. Thus, it is highly desirable to eliminate unnecessary differences and to explain clearly the necessary ones. Moreover, macroeconomic statistics are, for the most part, derived from financial accounting reports. Minimizing methodological differences obviously will facilitate the compilation of economic statistics.

3. Even if all concepts regarding the treatment of economic events and the definition, classification, and valuation of assets and liabilities are identical for economic statistics and financial accounting, the two types of reports will differ if the organizational entities that are the subjects of the reports differ. In addition, governments often play several different economic roles, which suggests that economic and financial reports should be disaggregated to show the results of the separate major activities. Any such disaggregation requires a similar understanding of which entities engage in which types of activities.

4. The scope of economic and financial reports about the public sector is defined in terms of organizational entities. In economic statistics, these entities are referred to as units or statistical units. In financial accounting, they are referred to as reporting entities. The public sector is both the universe of governmental statistical units and the universe of governmental reporting entities. In the SNA, the public sector is defined rather obliquely as the units of the general government, public non-financial corporations, and public financial corporations sectors. [SNA 19.37][4] This definition leaves open any questions or uncertainties about which units are included in each of those sectors. In financial accounting, the Public Sector Committee (PSC) of the International Federation of Accountants (IFAC) states that the public sector "refers to national governments, regional (e.g., state, provincial, territorial) governments, local (e.g., city, town) governments and related governmental entities (e.g., agencies, boards, commissions and enterprises)."[5]

5. This paper investigates two issues about public sector statistical units in economic accounting:

- Does the SNA definition of the public sector and relevant guidance result in the correct identification and classification of public sector entities?
- Is the SNA guidance in identifying units engaged primarily in either commercial or governmental activities adequate?

II. Sectors

6. In the SNA, institutional units are aggregated into sectors according to the similarity of their economic objectives, functions, and behavior and the types of units that may control them. There are many ways to classify these characteristics and, as a result, there is no unique way to construct sectors. The SNA suggests two sectors that are relevant to this study - the public sector and the general government sector.

---

to the identification and grouping of institutional units. The one difference between the *GFSM* and the SNA relevant to this paper is consolidation.

[4] References to the SNA will be given as [SNA x.y], where x is the number of the chapter and y is the number of the paragraph in chapter x. References that do not follow quotations are paraphrases of the cited paragraphs.

[5] International Federation of Accountants, *Handbook of International Public Sector Accounting Standards, 2003 edition*, p. 10.

A The Public Sector

7. Institutional units can be classified as being public or private units or being owned or controlled by public or private units. The grouping of all public units and units owned or controlled by public units is referred to in the SNA as the public sector. It consists of all government units, all nonprofit institutions (NPIs) controlled and mainly financed by government, and all public corporations.[6] Statistics on the public sector provide information on the total resources controlled by governments and the purposes and efficiency with which those resources are employed.

8. The public sector is defined in the SNA as the national, regional, and local governments plus related governmental entities. Determining exactly what is meant by the public sector is part of the first question raised in paragraph 5. The difficulty lies with the definition of control and, therefore, with related governmental entities. As will be seen in section III.A, there is some uncertainty about the exact meaning of some of the terms used to define government units, NPIs controlled and mainly financed by government, and public corporations.

B The General Government Sector

9. Institutional units also can be classified as being either market or nonmarket producers. Such a classification is important for economic analysis because units subject to market forces behave differently than units not subject to market forces. Many units engage in both market and nonmarket production, but usually one type of production predominates so that a classification of mixed units is not needed. It is sufficiently accurate to treat each unit as being either a completely market producer or a completely nonmarket producer.[7]

10. All corporations and some NPIs are predominantly market producers. All government units and most NPIs are predominantly nonmarket producers. Within nonmarket producers, some units finance their activities primarily through taxes and other compulsory transfers, and other units finance their activities primarily through voluntary transfers. The first group consists of all government units and NPIs controlled and mainly financed by government. This group is referred to in the SNA as the general government sector.

11. Determining exactly what is meant by the general government sector in the SNA is part of the second question raised in paragraph. As will be seen in later sections, there is some uncertainty about the exact meaning of some of the terms used to define institutional units and the exact definition of economically significant prices.

12. Economic reports for the general government sector are intended to provide identification of all units that implement the country's fiscal policy and a measure of their activities. These units may control units engaged in market production and their decisions may be affected by the activities and status of those units, but combining the two types of activity would disguise the effectiveness with which the public resources are used and make it harder to estimate the impact of a country's fiscal policy on the total economy. To the extent that public corporations exist, however, the assets, liabilities, and economic

---

[6] This definition is equivalent to the definition cited in paragraph because all corporations are either financial or nonfinancial corporations and in chapter IV of the SNA it is clear that the phrase "units of general government" includes NPIs controlled and mainly financed by government.

[7] As will be discussed in section IV, this statement is not quite accurate. If a unit is sufficiently mixed in its production to hamper economic analysis, a synthetic unit - the quasi-corporation - is created. Once all quasi-corporations have been created, each unit can be treated as a completely market or a completely nonmarket producer.

activities controlled by governments will be split between the statistics of market and nonmarket producers.

13. The activities of public corporations obviously affect the status of their parent government units. Any transaction between public corporations and their parent units, such as operating subsidies or dividends, are recorded appropriately along with all other transactions of the government units. In addition, the net worth of a public corporation is an asset of the owning government unit. Any change in the net worth of the corporations will be reflected in the balance sheet of the relevant government units.[8]

III. The Public Sector

A The Reporting Entities of Economic Statistics

Institutional units

14. The heart of the statistical system of the SNA is a set of accounts that presents (1) stocks of assets and liabilities in a balance sheet for the total domestic economy and its major sectors at the beginning and end of an accounting period and (2) the principal economic activities occurring within the accounting period in several flow accounts. A statistical unit known as the institutional unit is used for the compilation of these accounts. The total domestic economy is the aggregation of all domestic institutional units, and each sector is an aggregation of certain domestic institutional units with specific characteristics.

15. An institutional unit is "an economic entity that is capable, in its own right, of owning assets, incurring liabilities and engaging in economic activities and in transactions with other entities." [SNA 4.2] Such a unit "is able to take economic decisions and engage in economic activities for which it is itself held to be directly responsible and accountable at law," including entering into contracts. [SNA 4.2] Because an institutional unit can engage in economic activities on its own account, it can buy and sell goods and services, own assets, and incur liabilities in its own name. Another implication is that either a complete set of accounts reflecting the unit's activities exists or it must be possible and meaningful to compile such a set of accounts. [SNA 4.2] Finally, an institutional unit must be resident in the domestic economy.

16. An institutional unit is either (1) a household or (2) a legal or social entity whose existence is recognized by law or society independently of the persons or other entities that may own or control it. [SNA 4.3] For the purpose of this study, only legal or social entities are of interest. Three main types of legal or social entities are identified in the SNA: government units, corporations, and nonprofit institutions. [SNA 4.5]

17. The implications of the definition of an institutional unit will be explored in the following sections. It will be seen that the definition is sufficiently vague that a list of domestic institutional units cannot be drawn up without additional guidance and the definition is sufficiently elastic to permit practical interpretations that support various analytical objectives.

Government units

18. Government units are "legal entities established by political processes which have legislative, judicial or executive authority over other institutional units within a given area." The principal economic functions of government units are (1) to assume responsibility for the provision of goods and services to the community or to individual households at prices that are not economically significant, and (2) to

[8] Working Group II (WGII) of the TFHPSA is examining government transactions with public corporations including accounting for income from public corporations on an equity basis.

redistribute income and wealth by means of transfer payments, financing both of these activities primarily from taxation or transfers from other government units. [SNA 4.104]

19. In order to apply the general definition of an institutional unit to identify government units, the SNA offers the additional guidance that a government unit must:

- Have funds of its own, either (1) raised by taxing other units resident in or engaging in economic activities in its area of authority or (2) received as transfers from other government units; [SNA 4.104(a)]
- Be able to own assets [SNA 4.125] and incur liabilities by borrowing on its own account; [SNA 4.104(a)]
- Have the authority to disburse at least some of its funds in the pursuit of its policy objectives; [SNA 4.104(a)] and
- Be able to appoint its officers, independently of external administrative control. [SNA 4.125]

20. All government units supply most of the goods or services they produce or purchase for resale to consumers free or at prices that are not economically significant. Roughly speaking, economically significant prices can be characterized as market prices. [SNA 4.24(b)] Thus, producers that charge prices that are not economically significant are referred to as nonmarket producers. Despite being nonmarket producers, government units may engage in some market production. By definition, the amount of market production must be less than the amount of nonmarket production, and it usually is much less. The treatment of such market production depends on the organization of the government unit. Economically significant prices and the possible treatments of the market production of a nonmarket producer are discussed further in section IV.

Corporations

21. Corporations are legal entities that are (1) created for the purpose of producing goods or services for the market, (2) collectively owned by other institutional units, (3) intended to be a source of profit or other financial gain to their owners and (4) recognized at law as separate legal entities from their owners. [SNA 4.23 and 4.47]

22. Producing for the market means that the goods and services produced by the unit are sold or otherwise disposed of at economically significant prices. [SNA 4.24(b)] The definition of these prices is discussed further in section IV.

23. The owners, known as shareholders, can be any type of institutional unit, including households, government units, and other corporations. The total value of a corporation is allocated in some manner among the shareholders, usually in proportion to the number of shares owned.

24. Any profit or other financial gain earned by a corporation belongs directly or indirectly to the shareholders. Financial gains can be passed on directly to the shareholders as a dividend or similar distribution or the corporation can retain them.[9] Any amount retained by the corporation increases the value of the corporation and indirectly the value of the shares. [SNA 4.24] Similarly, any loss suffered by the corporation decreases the value of the shares.

[9] See footnote 8.

25. As institutional units, corporations must be responsible and accountable at law for their own actions, which implies that they are legally independent of their shareholders. Legal independence implies the ability to buy, sell, lease, and mortgage property in its own name and the power to sue and be sued without recourse to the owners. This independence usually means that the liability of shareholders with respect to the corporation's actions is limited to the amounts invested in the corporation.

26. Legal independence does not mean that corporations make decisions autonomously. In fact, the requirement that shareholders must own corporations means that their activities have to be controlled in some manner by the collective decision of those owners. If there is a large number of owners, each with a small percentage ownership share, then the corporation's decisions will be relatively autonomous. If, however, there is only one owner, then that owner will be able to direct the corporation's activities in whatever detail desired. Nevertheless, even corporations wholly owned and controlled by a single unit are legally responsible for their own actions and, therefore, constitute separate institutional units. [SNA 4.38]

27. In the SNA, the concept of corporations includes companies, partnerships, cooperatives, proprietorships, and other legal forms of organization in addition to organizations formally designated as corporations as long as they produce for the market, are owned by other units, can be a source of financial gain to their owners, and are separate legal entities. [SNA 4.23] Conversely, many entities known as corporations by the governing law are not corporations in the SNA because they do not produce for the market or cannot be a source of financial gain for their owners. [SNA 4.48] For example, many governments and NPIs are legally organized as corporations.

28. Corporations are formed in accordance with the laws of a specific locality. A corporation may normally be expected to have a centre of economic interest - i.e., to be resident - in the country in which it is created and registered. When it also has one or more branches engaged in significant amounts of production over long periods of time in other countries, such branches are treated as quasi-corporations that are separate institutional units resident in the countries in which they are located. [SNA 4.24] The treatment of these nonresident branches is discussed in section IIIB.

Public corporations

29. Corporations can be owned or otherwise controlled by government units as well as by other types of institutional units. Corporations controlled by government units are referred to as public corporations. Control is defined as the ability to determine general corporate policy, typically by appointing appropriate directors. Owning more than half the shares of a corporation usually is sufficient to control the corporation, but other methods of control are possible. For example, a government may be able to control a corporation as a result of special legislation giving it the right to appoint the directors regardless of the number of shares owned. [SNA 4.30]

Nonprofit institutions

30. NPIs are legal or social entities created for the purpose of producing goods and services whose status does not permit them to be a source of income, profit, or other financial gain for the units that establish, control, or finance them. The articles of association by which they are established must be drawn up in such a way that the institutional units which control them are not entitled to a share in any profits or other income they receive. [SNA 4.54] Some NPIs may be created as legal corporations. They are, however, treated as NPIs in the SNA because they cannot be a source of financial gain to the units that establish, control, or manage them.

31. NPIs can be market producers. The term "nonprofit" derives from the fact that the members of the association controlling the NPI are not permitted to gain financially from its operations and cannot

appropriate any surplus that it may make. It does not imply that an NPI cannot make a profit from its productive activities. [SNA 4.56] For example, nonprofit universities, hospitals, and credit unions might charge prices that are sufficiently high to be judged economically significant. [SNA 4.58]

32. NPIs that do not charge economically significant prices are nonmarket producers; they must rely principally on funds other than receipts from sales to cover their costs of production or other activities. Their principal source of finance may be investment income, regular subscriptions paid by the members of the association that controls them, or donations from third parties, including government units. [SNA 4.60]

Nonprofit institutions controlled and mainly financed by government

33. Some nonmarket NPIs are controlled and mainly financed by government. To be nonprofit institutions, these units must be properly constituted legal entities that exist separately from government. Governments can establish NPIs, reserve the right to appoint the directors and otherwise direct the activities on the NPI, and provide any necessary financing. It is likely that an NPI controlled and mainly financed by a government is carrying out the government's policies using government resources and effectively is a part of that government. Once established, however, the government cannot profit from the NPI's activities or retain a claim on its assets.

34. Governments may find it appropriate to create NPIs to carry out a specific function rather than use a government unit because NPIs are seen as more detached and objective and less subject to political pressures than government units. [SNA 4.62] Possible examples are NPIs engaged in research or development and NPIs that set and/or maintain standards in fields such as health, safety, the environment, accounting, finance, and education.

35. As with corporations, control of an NPI is the ability to determine its general policy or program, typically by having the right to appoint its officers. [SNA 4.62] The SNA does not define "mainly financed." It was previously observed, however, that a nonmarket NPI must rely principally on funds other than receipts from sales to cover their costs of production or other activities, and that one source of these funds can be donations from government units. It is presumed, therefore, that "mainly financed by government" means that a government unit is the principal source of the funds used by a nonmarket NPI to cover its costs of production and other activities.

B Difficulties in Identifying Public Sector Institutional Units

36. Although the preceding sections present reasonably clear notions of what an institutional unit is and how to classify them as public or private units, there are a number of borderline issues.

Definition of an institutional unit

37. Institutional units are defined so that they will adequately support macroeconomic analysis. The measurement and analysis of production is perhaps the primary goal of economic statistics, and the classification of institutional units in the SNA into market and nonmarket producers is vital for that goal. A second design aspect is that the variety of possible analytical tasks requires a coherent set of statistics regarding the full range of economic activities. The definition of an institutional unit as a unit that can engage in all types of economic activity is crucial for such a coherent set of statistics. **The current definition needs some elaboration as institutional units cannot be identified without additional guidance and the definition permits practical interpretations that support various analytical objectives.**

a. Having balance sheets, a complete set of accounts, owning assets and incurring liabilities can be done by entities that are not institutional units. **The relationship between these characteristics and the concept of an institutional unit needs to be defined more clearly.**

b. Social security and autonomous pension funds probably are not institutional units if the definition is strictly followed, but the needs of economic analysis are better met if they are classified as institutional units. **The definition of an institutional unit should make it clear why they are so classified.**

Some conditions are cited in paragraph for government units that do not appear to go beyond the definition of an institutional unit. There is no explanation in the SNA whether this extension of the definition of an institutional unit is intentional or these requirements of government units are simply interpretations of the definition. **However, it should be clarified in the SNA whether the definition includes these requirements or whether they are provided for guidance only. In addition, the requirements should be reviewed to avoid inconsistencies in interpretation.**

Control and finance

38. Establishing the definition of control is the most important borderline issue for determining if a unit is a public or private unit. A public corporation is a corporation that is controlled by a government unit, and a NPI is a public unit if it is both controlled and mainly financed by a government unit.

39. The IFAC PSC defines control[10] to be "the power to govern the financial and operating policies of another entity so as to benefit from its activities". The SNA definition is less restrictive than the financial reporting definition. The criterion of having the power to govern the financial and operating policies of another entity in the financial reporting definition is essentially the same as the entire definition of control in the SNA. **The power to receive a benefit from the controlled entity is not part of the SNA definition [SNA 4.30], but should be for corporations. Doing so would exclude units operated in a fiduciary capacity from the public sector of the SNA, which is desirable.**

40. According to the PSC, having the power to govern the financial and operating policies does not mean that the powers have to be exercised. The controlling entity does not have to have responsibility for the day-to-day operations of the controlled entity. An entity may exercise its power to control another entity only in exceptional circumstances, which may never occur. [IPSAS 6.29] The power must, however, be presently exercisable. If the power depends on the existence of legislation or a formal agreement, that legislation or agreement must be in effect; it cannot be contingent and it cannot require changing legislation or renegotiating agreements. [IPSAS 6.28] **The explanations that the power to control must be presently exercisable (i.e., power already conferred by legislation etc.) and that regulatory or purchase powers do not imply control should be added explicitly to the SNA definition of control [SNA 4.30]. Additional guidance on the meaning of "the capacity to determine financing and operating policies" should be provided in the SNA.**

Corporations

41. In many cases, it will be clear that a government unit controls a corporation because it is the sole owner or it has the exclusive right to appoint directors. There easily can be, however, cases in which the government is not the sole owner. In those cases, it may not be obvious that there is a controlling owner.

[10] The definition is in the International Public Sector Accounting Standard (IPSAS) issued by the IFAC PSC: IPSAS 6 – *Consolidated Financial Statements and Accounting for Controlled Entities*

In addition, governments can strongly control the economic actions of corporations by exercising their sovereign powers.

42. A corporation "is collectively owned by shareholders who have the authority to appoint directors responsible for its general management." [SNA 4.23] A public corporation is one that is controlled by a government unit, where "control is defined as the ability to determine general corporate policy by appointing appropriate directors, if necessary." [SNA 4.30] This rule is repeated elsewhere in the SNA with the same generality. **It is recommended that additional guidance be provided on how to implement it.** The IPSASs include some guidance on what is control and this could be considered for use in the SNA. IPSAS 6 also includes a decision tree on establishing control of another entity for financial reporting purposes. **Development of a similar decision tree in the SNA is recommended.**

43. The simplest case is where ownership is expressed by possessing a number of shares, all shares have equal standing, owners may own different numbers of shares, and no units can influence the management of the corporation except by owning shares. In this case, "Owning more than half the shares of a corporation is evidently a sufficient, but not a necessary, condition for control." [SNA 4.30] If ownership is diffused among a large number of owners, it is possible for a government unit owning less than half of the shares to control the corporation. Determining when a minority owner controls the corporation is, however, judgment and it is suggested in the SNA that errors should be in the direction of not assuming control: "Nevertheless, because it may be difficult to identify those corporations in which control is exercised by a minority of shareholders, it is recommended that, in practice, corporations subject to public or foreign control should normally be confined to those in which governments or non-residents own a majority of the shares. This recommendation is intended only as a practical guideline, however, to which exceptions can be admitted if there is other evidence of control." [SNA 4.30]

44. Reference is also made in the SNA to slight variations of controlling a corporation by owning shares. A government unit can own shares indirectly as well as directly and the degree of control should be considered the same. "As a practical guideline, therefore, it is recommended that control should normally be attributed to an institutional unit, or organized group of units, only when they own or control (e.g., *through a subsidiary*[11]) more than 50 percent of the voting shares of a corporation..." [SNA 4.70, italics added] For example, a government unit can control one corporation and that corporation can control a second corporation. In theory, a government can control a corporation by owning only a small fraction of its equity indirectly through partial ownership of a long chain of intermediate corporations.

45. The reference to an "organized group of units" in the quotation just cited also suggests that two or more government units acting in concert can control a corporation. For example, within an economic territory, several local governments could jointly establish a corporation to provide regional transportation services. The corporation would be completely owned by government units but is not controlled by any single unit. Nevertheless, it clearly is a public corporation, although **more specific guidance should be added to confirm that conclusion.** [SNA 4.70 and 4.84] However, in the case of a corporation located and incorporated in one country, and owned by governments of other countries, the corporation would be classified as a private corporation in the country in which it is located. (See section on Residence below.) **The SNA should make the point more clearly because it indicates that the concept of control is used to determine the way a unit will behave, not to indicate financial responsibility.**

[11] A corporation (B) is a subsidiary of another corporation (A) when either A controls more than half of the shareholder's voting power of B, or A is a shareholder in B with the right to appoint or remove a majority of the directors of B. Corporation B is an associate of A if A and its subsidiaries control between 10 per cent to 50 per cent of the shareholder's voting power in B so that A has some influence over the corporate policy and management of B.

46. Alternatively, a government unit could establish a joint venture with a private unit, in which both owners jointly control and neither is dominant. Such a situation can present a difficult judgment whether the unit is public or private. Current statistical standards require the entire unit to be one or the other; it cannot be partitioned as in financial reporting. **It is recommended that guidance be provided in the SNA on the classification of joint ventures.**[12]

47. One other method of control is specifically provided for in the SNA: "The government may secure control over a corporation ...(b) As a result of special legislation, decree or regulation which empowers the government to determine corporate policy or to appoint the directors." [SNA 4.72] In some cases, control will be clear. Perhaps the corporation has not issued any formal ownership instruments, but a government possesses and exercises the power to appoint all of the directors. Other cases may not be clear. For example, in return for a charter to a corporation granting monopoly rights to produce some type of goods or services, a government may reserve the right to appoint some of the directors or exercise financial oversight.

48. Legislation other than the specific right to appoint directors can influence a corporation's actions to the extent that control could be considered to have been established. For example, a corporation could be limited in the type of output it may produce; there may be minimal quality standards or required uses of inputs; and many other types of restrictions are possible. If restrictions of this nature are particularly extensive, then one could conclude that the government is determining general corporate programs and thus has control. General regulatory powers, on the other hand, do not constitute control of corporate policy. For example, industry regulators do not control the corporations that they regulate. There is no guidance in the SNA on this subject beyond the cited statement that control can be obtained by means of special legislation. **As long as the corporation is under the management of privately appointed directors and the benefits of the corporation's activities accrue to private owners, the corporation should be classified as private, but greater specificity in the SNA should be added.**

49. Corporations, which in the SNA include legal forms of organization other than corporations, could be controlled by a government but operated for the benefit of other units or they could not be controlled by a government but operated for the benefit of government. Two special types of organizations of this nature are organizations in which a government acts in a fiduciary capacity for other units and special purpose vehicles (SPVs) created by securitization operations in which a private financial corporation is the trustee acting for the benefit of a government. These cases are discussed in later sections. [SNA 4.84]

Nonprofit institutions

50. NPIs can be controlled by other units just as corporations can be controlled, but the controlling units cannot benefit financially from the operations of the NPI. With regard to market NPIs, it is stated in the SNA that control of nonfinancial market NPIs is determined by the same rules as are used for nonfinancial corporations, [SNA 4.70] and that financial market NPIs should be evaluated according to the same criteria. [SNA 4.84]

51. The classification of nonmarket NPIs as public or private does not follow the same criteria as the classification of corporations. Control of a nonmarket NPI is determined in the same manner: "In this context, control [of a nonmarket NPI] is to be understood as the ability to determine the general policy or programme of the NPI by having the right to appoint the officers managing the NPI." [SNA 4.62] Nonmarket NPIs are classified as public units, however, only if they are both controlled and mainly

[12] The Canberra II Group is examining nonfinancial assets including assets of joint ventures.

financed by government. It was deduced above that mainly financed means that a large share of the funds needed for current operations is supplied by government.

52. Although the criteria for determining control of an NPI are the same as for control of a corporation, those criteria may not be applicable to a NPI or not with the same degree of importance. A typical corporation is governed by owners casting votes in proportion to the number of shares owned. Because NPIs do not have owners, this method of selecting directors is not possible. If the NPI is a member-based organization, then the directors likely are elected with each member having one vote, regardless of the member's degree of financial support or other involvement in the NPI. It is unlikely that a government unit, or any other type of unit, could control such a NPI as it would have just one vote. However, if there were several members from government units, then the government would have several votes and could control the NPI. The directors of other types of NPIs are either self-selecting, in which case the existing directors select new directors to fill a vacancy, or are determined in accordance with the legal documents that created the organization, in which case the directors are usually appointed by a specified government or other sponsoring organization. In either case, a government could dominate the board of directors and control the organization.

53. Because the methods of controlling a NPI differ from corporations, statistical agencies have considered several criteria when deciding if an NPI should be considered a public unit. Some of the criteria that have been suggested are: (1) whether the NPI's budget requires approval by a government, (2) whether its financial results are subject to government audit, (3) whether the NPI's financial results are included in government financial reports, (4) whether the employees are government employees, (5) whether the government is the sole consumer of the NPI's output, and (6) whether the NPI performs a regulatory function. Satisfying one of these criteria is not conclusive, but it does suggest that the government controls the NPI.

54. It is not clear from the current text of the SNA whether the requirement to be mainly financed by government is a supplemental means of establishing control or whether it is an independent requirement. Supplying a large share of the operating funds to a nonmarket NPI certainly creates the opportunity for influence as the donor can severely curtail the NPI's operations by withholding funds unless the directors of the NPI agree to act as directed by the donor. An NPI that is not otherwise controlled, however, retains the option of refusing the funds and operating on a reduced scale unconstrained by the donor-imposed restrictions. A government also could provide funds to an NPI without connecting them with any operating restrictions. The government may feel obligated to provide certain services to its constituents and an existing NPI may already have the know-how to provide those services efficiently. As a result, the government can simply provide sufficient funds to produce the desired volume of output without exerting any control. Thus, it is not obvious that finance provides control.

55. Statistical agencies have answered this question differently. Governments often provide a large share of the operating funds for universities, primary and secondary schools, and hospitals, but do not directly appoint the directors or otherwise interfere with the operating and financial decisions of the institutions. In some cases, governments may impose substantial restrictions about curriculum or standards of health care. Some agencies have decided that the supply of funds and operating restrictions amount to de facto control; other agencies have concluded that the institutions make their own operating decisions and, therefore, are private units.

56. Another possibility is that having control may not be sufficient to force an NPI to carry out the wishes of the controlling unit. A nonmarket NPI must rely principally on funds other than receipts from sales to operate. Presumably the goods and services provided are a type deemed important by the directors of the NPI, and the directors must have an expectation of being able to raise the necessary funds from donors who also think the services are important. It is not likely that a government could establish a NPI

for the purpose of supplying a certain type of services, appoint all of the directors, and then expect the general public to supply the funds. In other words, if a government wishes the NPI to act as an extension of the government, then the government most likely will have to finance as well as control the NPI.

57. **In summary, more guidelines are required in the SNA on the classification of NPIs as it is not clear which NPIs are part of the public sector. Although the criteria for determining control of NPIs is the same as for corporations, such criteria may not be applicable as the methods of controlling NPIs differ to those of corporations. For non-market NPIs, it is not clear whether the requirement to be mainly financed by government is part of the control definition criteria or an additional requirement. Clarification is recommended.**

Independence and autonomy of decision

58. Institutional units, as defined in section III.A, are independent in the sense that they are able to engage in economic activities, own assets, incur liabilities, enter contracts, and be responsible at law for their own actions. However, their autonomy may be constrained to some extent by other institutional units. For example, the fact that other units must own a corporation means there is a limit on its autonomy. In general, each corporation is treated as a separate institutional unit, even if it is completely owned and controlled by another corporation and has no autonomy of decision.

A complete set of accounts

59. A complete set of accounts, including a balance sheet, must exist for an institutional unit, or it must be possible and economically meaningful to construct such a set of accounts. The meaning of a complete set of accounts is not further explained. The specific mention of a balance sheet is somewhat peculiar. It could be that balance sheets were integrated into the statistical system of the SNA for the first time with the 1993 version of the system and there was a desire to call attention to the new feature. Another possible reason is that the balance sheet can serve as the conceptual foundation of the system. Once a balance sheet and the assets and liabilities to be recorded on it are defined, then it is logical that the statistical system should include the economic flows necessary to explain all changes in the balance sheet of a unit between the beginning and end of an accounting period.

60. A complete set of accounts can be constructed by government ministries, departments, agencies, and so forth even though their range of activities, assets, and liabilities may be limited. The clear intent of the SNA, however, is that a complete set of accounts should be meaningful for economic analysis, and a complete set of accounts for ministries does not satisfy this criterion.

61. The definition of an institutional unit only states that it can engage in economic activities, own assets, and incur liabilities. It does not say a unit can engage in all types of economic activities, own all types of assets, and incur all types of liabilities or that, at a minimum, it must be able to own certain types of assets and engage in certain types of activities. Some units are limited in their range of activities by their nature or by force of law, but this type of limitation should not affect the definition of an institutional unit. The general intent of an institutional unit expressed throughout the SNA is that a unit should be capable of engaging in *all* types of activities appropriate for the type of unit, which implies an ability to own *all* types of assets and liabilities. If this is true, then all of the SNA accounts can be compiled for an institutional unit in a meaningful way. **The SNA should be revised to confirm or deny this interpretation of the definition of an institutional unit.**

Residence

62. The overriding goal of the statistical system of the SNA is to measure production taking place within a country. For this purpose, production is defined in terms of the productive activities engaged in

by resident institutional units. Within that restriction, however, an institutional unit is not limited in its geographic location. The offices of the primary central government unit are likely to be spread throughout the entire country and may extend outside the country, for example, embassies. When a corporation undertakes economic activity outside its own economic territory, the SNA [4.24] recommends the creation of separate units in each economic territory in which the activity takes place. To show the correct value of the parent unit, a financial asset representing the value of each foreign subsidiary is added to its balance sheet, but not the individual assets and liabilities of the foreign subsidiaries.

63. In the SNA, an institutional unit is resident in a country when it has a center of economic interest in the economic territory of that country. Residence is not based on nationality or legal criteria because they may not be appropriate for economic purposes. [SNA 14.8]

64. The economic territory of a country consists of the geographic territory administered by a government within which persons, goods, and capital circulate freely, including any clearly demarcated areas of land located in other countries and used by the government that owns or rents them for diplomatic, military, scientific or other purposes - embassies, consulates, military bases, scientific stations, information or immigration offices, aid agencies, etc. - with the formal political agreement of the government of the country in which they are physically located). [SNA 14.19] Conversely, embassies, consulates, military establishments, and other entities of a foreign general government unit are to be considered as extraterritorial by the economy in which they are physically located. [SNA 14.31]

65. Corporations have a center of economic interest in a country when they are engaged in a significant amount of production of goods or services there, or own land or buildings located there. They must maintain at least one production establishment in that country that they plan to operate indefinitely or over a long period of time—a guideline of one year or more is suggested. [SNA 14.22]

66. As the foreign operations of public corporations are nonresident institutional units, they are not part of a country's public sector and their production should be classified as production in a foreign country. However, the net result of their activities will be included in the statistics of the public sector and the net worth of the public sector will be correct. **This requirement for separation of operations into domestic and foreign could be made clearer in the SNA.**

Pension funds and other fiduciary activities

67. Employers and governments often hold funds in a fiduciary capacity for other units. If the holding of these fiduciary funds is organized in a manner that constitutes a separate institutional unit, such as an autonomous pension fund for employees or a joint investment fund for several governments, the units must be classified in the same manner as other institutional units. In this case, a government unit or a public corporation will control the pension or investment fund, and it would be classified as a public unit. Such a classification might be inappropriate because the unit's fiduciary activities are not governmental activities and benefits flow, not to the public sector, but to households.

68. Institutional units are capable, in their own right, of engaging in all types of activities, but pension funds generally do not have that capability. The employees managing the funds are usually employees of the parent organization and the capital stock employed usually is the property of the parent unit. Typically, only a summary management fee is charged to the pension fund for the operating expenses. Nevertheless pension funds that are constituted in such a way that they are separate units in the SNA are classified as financial corporations. The current definition of control in the SNA, however, still leaves these units in the public sector when they probably should be private financial corporations.[13]

[13] See footnote 1.

Extending the SNA definition of control to include the power to receive a benefit from the controlled entity, would exclude units operated in a fiduciary capacity from the public sector, which is desirable.

Special purpose vehicles

69. Special purpose vehicles (SPVs) are created for securitization, financing public private partnerships,[14] and other specialized activities where a separation from their nominal owner of assets or the right to future revenue is desired. For example, a government unit might transfer its rights to future taxes of a specified type to a SPV in exchange for a specified sum. The SPV then borrows using the rights to future government revenue as collateral and uses the funds to pay its obligation to the government. It then repays the borrowed funds using the designated taxes as they are received. The SPV usually is created as an independent entity for this single purpose and will go out of existence when the taxes have been collected and all debts liquidated. Often it is a trust under nongovernment administration. As such, it is a separate institutional unit, a financial corporation. Its classification depends on who controls the SPV, which could be the government unit, but more likely is an independent trustee. **There are no guidelines in the SNA about how to evaluate and classify SPVs.**[15] Quite often, they are simply methods for government units to borrow with the SPV providing a fiduciary role, which implies that the SPVs should be public units or an ancillary unit within a government unit.

NPIs controlled and mainly financed by government versus NPIs serving households that obtain all or most of their funds from government

70. Governments and NPIs often serve the same goals of providing social services to selected portions of the population free or at very low cost. Sometimes a government unit will provide the funds to support delivery of the services, but a NPI will actually produce the services or procure them from another producer. When that happens, the classification of the NPI depends on the interpretation of government payments to the NPI and the definition of economically significant prices (see section IV).

71. If the payments are interpreted as a purchase of services or as a subsidy on products (i.e., payment is related to the volume of the goods and services produced) to the NPI, then the NPI is classified as a market producer, either public or private depending on the interpretation of the degree of government control. If the payments to the NPI are treated as non-subsidy transfer payments, then the NPI is a nonmarket producer. Being mainly financed by government, it is again a public or private unit depending on the interpretation of control. There have been discussions for many years about the guidelines to be used when classifying government payments to NPIs. **The SNA needs further guidelines in this area.**

IV. The General Government Sector

72. The second question in paragraph asks whether, within the universe of public sector entities, units engaged primarily in either commercial or governmental activities are correctly identified and classified.

73. Economic statistics use the concept of economically significant prices to distinguish between commercial and governmental units. This nebulous concept is discussed in section IV.A. Improvements can undoubtedly be made in the definition, but the goal of a precise operational definition will remain elusive. It was previously asserted that all units are either predominantly market or nonmarket producers.

---

[14] SPVs are specific to individual public private partnership (PPP) projects. A SPV for a PPP is typically a consortium of banks and other financial institutions, set up to coordinate the use of their capital and expertise.

[15] See footnote 2.

As will be seen, this generalization is not quite true; the possibility of mixed units should be admitted.[16] The treatment of such units is discussed in section IV.B.

A Economically Significant Prices

74. A publicly controlled institutional unit could be either a government unit or a public corporation in the SNA depending on the prices for which the unit sells or otherwise disposes of its output. Market producers sell most or all of their output at prices that are economically significant. Prices are economically significant when they have a significant influence on the amounts the producers are willing to supply and on the amounts purchasers wish to buy. Universities and hospitals, for example, are market producers when they charge fees based on their production costs that are sufficiently high to have a significant influence on the demand for their services. Even if they generate persistent operating losses, they are market producers as long as their fees are determined mainly by their costs of production and are high enough to have a significant impact on demand. [SNA 6.50]

75. Nonmarket producers are producers that provide most of their output to others free or at prices that are not economically significant. A price is not economically significant when it does not have a significant influence on the amounts the producers are willing to supply or on the amounts purchasers wish to buy. Such prices are likely to be charged in order to raise some revenue or achieve some reduction in the excess demand that may occur when services are provided completely free, but they are not intended to eliminate such excess demand. Once a decision has been taken on administrative, social or political grounds about the total amount of a particular nonmarket good or service to be supplied, its price is deliberately fixed well below the equilibrium price that would clear the market. The price merely deters those units whose demands are the least pressing without greatly reducing the total level of demand.

76. Applying the definition of an economically significant price can only be a matter of judgment. The title is unfortunate, but should not be allowed to impede the adoption of sensible guidelines. Any price, including a price of zero, has economic significance and will affect the amounts demanded. More realistically, the definition is an attempt to describe situations in which the producer is selling its output for a market price or something close to it and responds to changes in market prices in ways similar to responses expected by private producers. This behavior is quite different from a nonmarket producer that supplies outputs for which there is not an effective market, such as public safety, or which a government or nonprofit institution feels members of its community should have access to but may be too expensive for many, such as shelters for the homeless. These producers will produce according to their capacity or what they feel is socially needed; any receipts from customers will be secondary.

77. The two extremes are fairly clear. Between them is a vast range of uncertainty. If a price permits an enterprise to generate continuously a positive operating surplus and the price is determined by current supply and demand conditions, it is a price that would be charged by a private corporation and is economically significant. Both the producer and the consumers will adjust to changes in the price. Two general cases can be imagined in which one of the conditions just described is absent, but one would most likely conclude that the price is economically significant. First, the price may not generate a positive operating surplus and there may be no reasonable hope that any price would generate a surplus. Municipal transportation enterprises are typical examples. In most cases, the profit-maximizing price will produce a loss. Receipts that cover 50 to 75 percent of costs are common. Governments perceive a social necessity to provide public transportation and will subsidize it to maintain some desired level of service. As long as the transportation enterprise acts like a market producer by adjusting its level of output and prices in response to demand and seeks to minimize costs, then this type of enterprise should be treated as a market producer. Second, a government may produce a product that could be sold at a profit-generating price, but

[16] Mixed units are units that are engaged in both market and non-market production.

adopts a public policy of selling it at a lower price to make it affordable to certain portion of the community. Perhaps there is a public unit that is the monopoly producer of electricity in a local market and the controlling government decides to set the price at 80 percent of the cost of production. Although a subsidy will be required, the enterprise is still acting as a market producer.

78. There have been several efforts since the publication of the SNA to divine what an economically significant price is, either attempting to develop general rules[17] or by examining individual cases. There cannot be any greater hope of defining an operational definition here than has been achieved elsewhere. In order to retain flexibility in the SNA, it is recommended that some additional background guidance, not rules, be developed and the relationship with the IPSAS definition of a government business enterprise (GBE) may be examined. The *European System of National Accounts 1995 (ESA 95*) could be considered in developing further guidance.

79. Most of the efforts to define an economically significant price center on the percentage of cost of production that the price represents. The higher the percentage, the more likely the price is economically significant. These analyses have revealed a need to better define price, sale, subsidy, and transfer payment.

80. There are three different definitions of price used in the SNA: basic, producers', and purchasers' prices. Basic prices are generally favored for valuing output. The basic price is the amount receivable by the producer from the purchaser for a unit of a good or service minus any tax payable and plus any subsidy receivable as a consequence of its production or sale. [SNA 6.205] If a government unit pays a subsidy calculated as an amount per unit, then the basic price includes that amount in addition to the amount paid by the purchaser. Thus, a product can be very heavily subsidized, but have a basic price that more than covers the cost of production. If the subsidy is paid to a private producer, then there is little question that the producer is a market producer. If the subsidy is paid by a government unit to a putative controlled public corporation, then there is no difference between this arrangement and one where the government simply sells the product for a minimal price. That is, an institutional organization should not be usable to convert a sale at a price that is not economically significant into a sale at an economically significant price.

81. Defining a sale is difficult when a government is involved. One of the economic functions of government is to supply goods and services to the community for free or at prices that are not economically significant. It can accomplish this supply by producing the goods and services or by insuring their supply by a third party. If the government chooses to involve a third party, it can purchase the items from a market producer at a market price and distribute them to the community or it can provide funds to a nonprofit organization engaged in that business. In the latter case, is the payment to the NPI a purchase of the output, which the government then gives to members of the community according to its criteria, is it a subsidy per unit of production, or is the payment a lump-sum donation to the NPI so that it can produce and distribute the output?

82. Other general guidelines concern the unit's behavior and how subsidies are distributed. For example, how is the price established? Is it a true market price? Are there private producers competing with the public unit? Does the unit respond to changes in the market in the same manner as a private producer? If so, then the prices probably are economically significant. When answering these questions, one should consider the actual price paid by the consumer rather than the basic price.

83. Are the subsidies provided to the unit available to private producers on the same basis, such as a subsidy for employing certain people, or is the subsidy the amount necessary the cover the unit's operating deficit, whether estimated in advance or after the fact. Some observers have suggested that certain types of

[17] The European System of National Accounts (ESA 95) adopts a 50 per cent rule to determine the type of producer and the sector for private NPIs.

activity are inherently commercial or governmental. There is sufficient variation among countries in how production is organized, however, this type of rule has attracted little support.

84. Does the consumer have a choice? If there is only one bridge across a river and the government establishes a separate unit to operate it as a toll bridge, the unit has little incentive to act as a market producer. A higher standard should be applied when deciding if the toll is an economically significant price, than if there were many competing toll bridges.

85. In summary, **there is no precise definition of economically significant prices that is applicable in the real world**. It is clear that the SNA permits prices that are substantially less than the cost of production to be economically significant. The interest of the SNA in this regard is to group units together that behave similarly. **Thus, considerable flexibility is allowed if the producer in question is clearly acting like a market producer. The less market-like the producer acts, the higher the price should be relative to production costs to be classified as economically significant.**

B Quasi-corporations and Market Establishments

86. It is possible for any government unit to sell some of its output for economically significant prices. These sales may constitute only a very minor part of the unit's activities, such as selling government-published pamphlets in a large office otherwise devoted to nonmarket activities. These incidental sales do not affect the unit's classification as a predominantly nonmarket producer and a government unit or the valuation of its output.

87. Sometimes, however, an entire section of an otherwise nonmarket unit is engaged in market activities. Institutional units consist of one or more establishments, where an establishment is located in a single location and at which only a single productive activity is carried out or in which the principal productive activity accounts for most of the value added. [SNA 5.21] If there are two or more establishments in the institutional unit, then by definition none of the establishments meets the requirements to be an institutional unit. Because a government unit is a nonmarket producer, most of its establishments will deliver all or most of their output to consumers for free or at prices that are not economically significant. Some establishments might sell their output for economically significant prices, such as an office that produces publications and sells them for market prices or a municipal swimming pool that charges market entrance fees. If it is possible to identify a market establishment within a government unit, then the output of that establishment is valued at the applicable market prices and the net operating surplus will in general not be zero.

88. Of interest here is the possibility that one or more market establishments within a government unit may constitute a cohesive unit that functions as if it was a public corporation. If so, then the SNA requires that the government unit be divided into two units, with the market producing portion designated a quasi-corporation and the nonmarket portion remaining a government unit. In other words, a government quasi-corporation is an unincorporated enterprise owned by a government unit that operates as if it were a separate corporation and whose de facto relationship to its owner is that of a corporation to its shareholders. [SNA 4.49] Quasi-corporations are treated as if they were corporations: that is, as separate institutional units from the units to which they legally belong. [SNA 4.50] The intent behind the concept of a quasi-corporation is to separate from their owners those unincorporated enterprises that are sufficiently self-contained and independent that they behave in the same way as corporations. [SNA 4.51] Indeed, the requirement that a quasi-corporation act like a corporation almost requires it to be a separate reporting entity, and that requirement could be added to the SNA definition.

89. A quasi-corporation must have its own value added, saving, assets, liabilities, and so forth. It must be possible to identify and record any flows of income and capital that are deemed to take place

between the quasi-corporation and its owner. The amount of income withdrawn from a quasi-corporation during a given accounting period is decided by the owner, such a withdrawal being equivalent to the payment of a dividend by a corporation to its shareholder(s). A balance sheet is also needed showing the values of the quasi-corporation's fixed assets, inventories, financial assets, and liabilities. [SNA 4.52]

90. In order to be treated as a quasi-corporation, the government must allow the management of the enterprise considerable discretion not only with respect to the management of the production process but also the use of funds. Government quasi-corporations must be able to maintain their own working balances and business credit and be able to finance some or all of their capital formation out of their own savings, depreciation reserves, or borrowing. The ability to distinguish flows of income and capital between quasi-corporations and their owners implies that their operating and financing activities cannot be fully integrated with government revenue or finance statistics in practice, despite the fact that they are not separate legal entities. [SNA 4.108]

91. An example of a government quasi-corporation might be a major administrative division of a ministry or department that produces and sells electricity for market prices. The division is expected to cover its costs of production, including its cost of capital. The relationship between the division and the rest of the ministry in the budget approved by the legislature might only be a single line item for the net flow of resources to or from the division, and the division might issue separate financial reports. The division might need to borrow large amounts to acquire its fixed assets and it might be restricted to borrowing from the government. The division does not quite qualify as an institutional unit under the general definition because it does not really borrow in its own name and the government remains financially responsible for the actions of the division. Nevertheless, it acts so much like a market producer that economic analysis is improved by classifying the division as a quasi-corporation.

92. It is quite possible that a quasi-corporation will be a reporting entity for financial accounting, in which case the financial results will be available for compiling economic statistics. The previous section about economically significant prices applies with equal validity when deciding if a quasi-corporation exists because it must sell its output for those prices. **The fact that a quasi-corporation does not meet the general definition of an institutional unit suggests that the SNA should include more guidance in assessing the economic significance of the prices of possible quasi-corporations.**

For Official Use **STD/NAES(2004)11**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

29-Sep-2004

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)11
For Official Use

National Accounts and Economic Statistics

ACCRUAL OF EARNINGS ON EQUITY STAKES OF GOVERNMENT INTO PUBLIC CORPORATIONS IN THE SNA

CAPITAL INJECTIONS, SUPERDIVIDENDS AND REINVESTED EARNING

This document has been prepared by Philippe de ROUGEMONT, Eurostat (Luxembourg)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12-15 October 2004
Tour Europe, Paris la Defense

Beginning at 9:30 a.m. on the first day

For further information please contact:
Philippe de Rougemont
Philippe.DE-ROUGEMONT@cec.eu.int

JT00170316

English - Or. English

Table of contents

Acronyms

BOP	Balance of Payment
DFI	direct foreign investments
ESA 1995	*European system of accounts 1995*
GFSM 2001	*Government Finance Statistics Manual 2001*
MDD	*ESA 1995 Manual on Government Deficit and Debt*
ROW	Rest of the world
1993 SNA	*1993 System of National Accounts*

SNA categories

B.2	operating surplus
B.9	net lending / net borrowing
D.3	subsidies
D.319	other subsidies on products
D.41	interest
D.42	distributed income of corporations
D.421	dividends
D.422	withdrawals from income of quasi-corporations
D.43	reinvested earnings on direct foreign investments
D.9	capital transfers
D.99	other capital transfer
AN	non-financial assets
F.2	currency and deposits
F.3	securities other than shares
F.5	shares and other equity
K.11	nominal holding gains/losses (revaluation)

ACCRUAL OF EARNINGS ON EQUITY STAKES OF GOVERNMENT INTO PUBLIC CORPORATIONS IN THE SNA

CAPITAL INJECTIONS, SUPERDIVIDENDS AND REINVESTED EARNINGS

Topic 1 of Working Group 2,
Task Force on Harmonization of Public Sector Accounting (TFHPSA)
Draft 5 September 1, 2004

by Philippe de Rougemont (and Jeff Golland)

Executive Summary

A Dividend recording in SNA and reinvested earnings

1. The *1993 SNA* recognises as revenue (or more exactly as "resources") of the investor, the dividends paid by the investee (SNA 7.113), instead of the prorated share of the (operating) profit/loss of the investee that accrues on the equity holdings of the investor. However, the *1993 SNA* makes an exception to this principle for the Rest of the World Accounts (following the preexisting treatment in the Balance of Payment statistics), in the case of direct investment relationship — that is, when the investor has "control or influence" in the investee (or more than 10% equity stake; SNA 14.152) —, where the part of the profit not distributed, called "reinvested earnings", is recorded as a property income (D.4) of the investor, and deemed to be reinvested (SNA 7.120).

2. The rationale for the "reinvested earnings" treatment is that "since a direct foreign investment enterprise is subject to control or influence by a foreign direct investor..., the decision to retain some of its earnings within the enterprise must represent a conscious deliberate investment decision on the part of the foreign direct investor" (SNA 7.121). This rationale was not extended to other direct investment links in the SNA.

B GFS implications of the 1993 SNA

3. The non-application of the accrual of earnings to direct investments of general government or of the public sector leads to difficulties for establishing proper fiscal data, with many cases where public corporations pay lump sums to governments that exceed their operating profits for the year in question ("superdividends"), or, in contrast, receive "capital injections" in cash or in kind (including via debt assumption/cancellation), notably to cover past losses or with no expectation of future profits. Under *1993 SNA*, what should be the criteria for expensing or for revenue recognition of such events (i.e., classify those as financial or non-financial transactions)?

4. Recording superdividends paid by public corporations as government revenue allows government to pilot deficit at will, conveniently tapping the vast pool of their accumulated reserves. It is worth noting that superdividends are net worth neutral, and does not seems to meet the general Revenue criteria as laid down in *GFSM 2001* (GFSM 5.1). In addition, the time of recording seems not appropriate, because the true economic underlying event of the income is the profit made, not its distribution – which is clearly a financial choice, at least for controlled entities. Furthermore, government revenue should be demand contracting: superdividends are not, while the profit generated by the corporation ultimately was.

5. Conversely, while capital injections are net worth neutral, and should therefore logically be treated as financial in nature, fiscal experts often wish booking those as expense (capital transfers), at least when they are deemed to cover past (or even future) losses, because otherwise quasi-fiscal operations would not score in the government deficit. This is also seemingly foreseen in SNA 10.141b. However, the booking of such expense is also controversial, as they are not demand expanding (while the losses of the corporation were).

Question 1. Is the recording of superdividends and capital injection a serious difficulty in GFS (Q.1.1)? Have you observed or can you fear cases where governance issues are at stake (Q.1.2)?

C Pragmatic approach of GFSM 2001 and Eurostat Manual on Government Deficit and Debt

6. To alleviate the severe difficulties associated with the proper accounting of superdividends and capital injections, the *GFSM 2001* and more clearly Eurostat's *ESA 1995 Manual on Government Deficit and Debt* (MDD) have developed a pragmatic jurisprudence that wishes to expand on the existing *1993 SNA* or ESA 1995. The main elements are:

- Recorded dividends should not noticeably exceed the income of the period (this excludes holding gains and losses), aside from legitimate smoothing (GFSM 5.87; MDD II.1.1.4.b and II.1.2.1). Hence, distributions of superdividends, or other lump sum payments, should be reclassified as financial transactions, otherwise governments would be able to manipulate the timing of their revenues, irrespective of the time of the underlying event (the profit accrued).
- Conversely, capital injections should (generally) not be booked as financial transactions (even though they are always net worth neutral for the corporation in question and also for government). These transactions should be expensed where they cover past, or even perhaps future losses, of public corporations (MDD II.3.1.2; GFSM 6.57 and 6.60; SNA 10.141)—as their losses are not accrued in the first place as expenses in the books of government at time they are made—even where shares are issued (MDD II.3.1.2.3). Only injections realized in a commercial context, with expectations of a reasonable return on investment, would be classified as transactions in equity (MDD II.3.1.2).

7. One important case is the capital injections in the form of debt operations, instead of cash: debt assumptions, debt cancellation (debt forgiveness), or debt write-off. Recording guidance in *GFSM 2001* Annex II and ESA 5.16 seems not completely aligned and not necessarily coherent in between debt operations. Interestingly, for debt assumptions, *GFSM 2001* emphasizes the notion of acquisition of an effective claim[1]; and in case the beneficiary disappeared, GFSM Appendix II # 6 envisages recording a transfer, while ESA 5.16 foresees an other change in volume.

8. To some extend, the jurisprudence established by Eurostat and the *GFSM 2001* has been reasonably successful in starting sketching broad principles designed to avoid undue fiscal beautification. Arguably, the SNA review should, at the very least, be the occasion to incorporate those pragmatic

[1] However, it may be noted that a debt assumption without effective claim could be conceived as a debt assumption with effective claim followed by a cancellation or a write-off; hence a need for internal consistency.

guidance (unless the accrual of profits would be generalized to the general government – and other domestic sectors; see below).

Question 2. Is the orientation of the GFSM 2001 or Eurostat MDD guidance on superdividends and capital injections broadly right (Q.2.1)? Would it be important, as a minimum, to obtain that similar guidance be added in a reviewed SNA (Q.2.2)?

9. However, this has not been an unmitigated success. A charge can be made of asymmetric bias and cherry picking:

- Asymmetry: the distributed profits are booked as revenue if distributed during the period of earning—"too bad" for earlier undistributed profits. Injections are in contrast booked as expense more systematically and for the whole amount, but often long time after the underlying event (the loss). Injections in the form of debt operations are even recorded in various ways, opening the gates to substantial adverse statistical incentives.

- Cherry picking: injections are to be classified according to the expected performance, a judgment for which the statisticians may be ill-equipped.

Question 3. Do you judge the orientation of the GFSM 2001 or Eurostat MDD insufficient overall (Q.3.1)? Do you consider asymmetry a serious weakness (Q.3.2)? Do you consider cherry picking a serious weakness (Q.3.3)?

D Accrual of earnings

10. Another serious charge is that such pragmatic rules do not tackle head-on two large deviations to key principles of the system: accrual principle and the net worth neutrality of revenue/expense:

- Expense and revenues are defined as transactions that change the net worth (*GFSM 2001*). But dividends from, and capital injections in, public corporations are net worth neutral: they are fundamentally in the nature of a financial transaction, decreasing (or increasing, respectively) the public corporation liquidity to the advantage (or to the disadvantage) of the government liquidity; they are not in concept government revenue/expense.

- The accrual principle suggests recording amounts at the time the underlying event occurs: dividends are distributions of profits, and superdividends are simply distributions of mainly past periods' profits, that ideally ought to be recorded at time of profit earned (instead of at time of distribution). In the same vein, capital injections deemed to cover for past losses ought to be booked at time losses were incurred, not at time of recapitalization.

Do you consider that the deviation from the revenue/expense criteria for dividends and capital injections to be a serious weakness (Q.3.4)? Do you consider that dividends and capital injections recording deviates from accrual recording (time of recording) and is a serious weakness (Q.3.5)?

11. It is well-known on the market that the distribution of dividends is associated with a matching fall, on same day, of the value of the share in question. It is doubtful why such falls should be recorded as revaluations, as is the case now (although *1993 SNA* is silent on this issue). Instead, such falls in value on dividend distribution may be better captured as a volume change: a transaction in equity, similar to the SNA recording of the payment of coupons on bonds (not treated in *1993 SNA* as property income but as a redemption in bond). Symmetrically, the increase during the year of the value of shares for that part due

to the accruing of (operational) profits should better be conceived as volume changes, instead of price changes.

Question 4. Do you consider that the recording under revaluation of the fall in value of shares at time of dividend to be a serious weakness (Q.4.1)?

12. Accruing the earnings of investees (subsidiaries, affiliates) as revenue of the investors (the parents) would not eliminate all entries in the revaluation account in shares and other equity for direct investment, but would merely reclassify, from revaluations to transactions, that part of the change in value observed between two balance sheets that is originating from operational or entrepreneurial profits (exclusive of holding gains/loss and net of dividends paid). Hence, some revaluation entries would remain, capturing the change in equity stakes due to holding gains/losses on the investee's assets or liabilities, including (in case of quoted shares) those reflecting the optimist or pessimist market perception for the share in question.

13. Recording the earnings of investees as resources of the investors, at time those are earned would be an improvement in accrual accounting implementation. For this reason, it is suggested to call this method or option: "accrual of earnings".

E Public accounting: IPSAS

14. It is worth noting that accounting rules have long recognized the need to distinguish whether there is control or influence, or whether there is not, for deciding the recording rules of equity stakes and their returns.

15. In case of "control", IPSAS 6 prescribes consolidating the investee in the accounts of the investor; in case of "significant influence" (e.g., stake of more than 20%), IPSAS 7 prescribes accounting the equity stake in the investee using the equity method. In both cases, the profit/loss and the net worth of the investee are immediately recorded in that of the investor (pro-rata). This contrasts with the accounting of other minority stakes, where the revenue and net worth of the investor is impacted only at time and for the amount actually distributed by the investee.

16. IPSAS explicitly indicates that the equity recording is necessary in case of significant influence, because it would not be meaningful to allow dividends to be recognized as income. IPSAS 7 # 19:

> *"The recognition of revenue on the basis of distributions received may not be an adequate measure of the revenue earned by an investor.... As the investor has significant influence over the associate, the investor has a measure of responsibility for the associate's performance and, as a result, the return on its investment. The investor accounts for this stewardship by extending the scope of its consolidated financial statements to include..."*

17. To the extend that the equity method in accounting is analogous to the "accrual of earnings" (or reinvested earnings) in statistics, its application to general government in SNA would promote additional convergence of statistical standards with accounting standards.

Question 5. Would accrual of earnings pave the way to convergence with IPSAS (Q.5.1)? Should it be a main consideration (Q.5.2)?

F Extension of the accrual of earnings in the SNA

18. An issue is to what extent, the accrual of earning should be generalized in the SNA.

- in terms of sector coverage;
- in terms of threshold of ownership.

19. Already, all residents—non residents direct investment relationships apply accrual of earnings. The proposed further extension of all government—corporations direct investment relationships would leave, in the economy, two main families of links candidate for extension: (1) the financial corporation—non financial corporations links and (2) the internal links to each of the sectors (financial corporations; non financial corporations), which are massive but possible candidate for consolidation. It is worth noting that the (2)-types leave unchanged the saving of each sector.

Question 6. Do you consider that accrual of earnings should be applied consistently across national accounts, or could be only extended to government accounts / public sector accounts (Q.6.1.0)? Should it be extended to type (1) (Q.6.2.1) and/or type (2) (Q.6.2.2)?

20. In terms of thresholds, the accrual of earnings seems hard to contest in case of 100% ownership, where the parent can engage in transactions which are not at arm's length. The 50% threshold corresponds more neatly to control. The 20% threshold would ensure consistency with accounting standards. The 10% threshold would correspond to the traditional BOP threshold.

What should the relevant threshold be (Q.6.2)?

21. The case of the 0% threshold is interesting to note: it supposes recording all property income on shares on an accrual of earnings basis. Such an approach has the appealing aspect of relying more on the notion of volume-price delineation (than on the notion of control/influence), and of purifying the definition of the revaluation account. It would be argued that the increase in value due to the capitalization of profits must be interpreted as an increase in the volume or size of the company (presumably to invest more than otherwise would have been the case and boost further revenue and staff), not as a price change. The trend of the rise in stock price reflects in part this increase in size, in sympathy with the trend of the increase in GDP. Shareholders expect the value of their shares to increase by that amount, and it seems those expected changes in value do not meet the implicit definition of the revaluation account[2].

Do you think that the threshold could usefully be lowered to 0% (Q.4.2)?

22. More and more companies pass distributing dividends and instead redistribute cash via share buy-backs, notably for tax reasons; this risks distorting income data across the economy under the *1993 SNA* recording. In particular, many mutual funds (not to mention pension funds and life insurance) do not actually distribute their income and instead capitalize them: it would be unreasonable not to "fictitiously" distribute them to equity holders; this fictitious distribution prevents noticeable distortions of households' saving ratio. Already *1993 SNA* foresees such a distribution for insurance technical reserves in life

[2] SNA 12.63 and more neatly ESA 6.36 define holding gains and losses by reference to change in prices of assets. However the delineation within value between price and volume is largely conventional, and there is a risk of circularity when relying only on those two paragraphs. As an example, the increase in value of a zero coupon bond due to time passing is clearly assimilated in the system as a "quantum or volume change" (i.e., an increase in "size"), just as a wine ageing is gaining quality (SNA 12.110 and ESA 6.52). It is hence suggested that the SNA revaluation account captures **changes in value that were not expected**, either at time of contract (debtor principle) or at beginning of the accounting period (creditor principle).

insurance and pension funds—with the transaction D.44 (SNA 7.124 and 7.127)[3]. In addition, ESA 1995 wisely extends such a distribution to mutual funds shares (ESA 4.49b, 4.54b).

Do share buybacks create a risk of distorting income series (Q4.3)? Do you think accrual of earnings should be extended to mutual fund shares, as in ESA 1995 (Q.4.4)?

G Definition of the applicable earnings and treatment of losses

23. Another technical decision is what should be included the earnings to accrue. The SNA uses the entrepreneurial income (i.e., gross operating surplus plus net property income received/paid) net of current transfers received/paid (SNA 7.122). One issue is whether capital transfers should also be considered, as well as some other changes in volumes, such as those on impaired loans (very relevant for public banks). Another issue is how to deal with the possible circularity in case of cross-ownership.

What should be the definition of earnings to accrue (Q.6.3)?

24. Another technical decision is the treatment of losses: should they be recorded as negative revenue/property income in the books of the parent, or should they be expensed? Subsidies are in principle only government expenses; a rule may be applied where losses of 100% government owned corporations would be expensed, while losses in other cases would be booked as negative revenue.

What should be the treatment of losses (Q.6.4)? Could 100% government owned entities be treated differently (subsidies) from other cases (Q.6.4.1)?

II. Context

25. The relationship between public corporations and governments is a cause of concern for statistical recording, and more generally between corporations (and quasi-corporations) and their controlling shareholders: this raises the question of the **income—revaluation boundary**.

26. The issue is the classification of lump sums paid by Government to public corporations or the reverse.

a. Governments seek to classify lump sums paid by public corporations to government as revenue, because those are undistinguishable from dividends and have the attraction of improving, at will, the balance of the period. However, such lump sums do not meet the revenue test, as the net worth of government is left unchanged: other things being equal, the value of the public corporations falls by the same amount. The lump sums are fundamentally portfolio-reshuffling events: they are financial transactions.
b. Governments seek to classify lump sums paid to public corporations as financial transactions, because such recapitalization is net worth neutral and does not meet the expense test. However, such a recapitalization occurs because the government lets public corporations incur regular losses that are not

[3] It may be argued that the parallel may risk overstretch, as one remembers that the accrual of earnings standard that is imposed in the *1993 SNA* for insurance technical reserves results from the fact that the reserves are linked to the cost of insurance services. Mutual fund earnings do not raise or lower the cost of the financial service offered by the funds. However, another reading may be that the *1993 SNA* formula already—via its provision that the change in reserve to consider should exclude holding gains and losses—appropriately catered for the under recording of output; and that the choice of accrual of earnings on insurance technical reserves relates to another consideration: showing the increase in households' asset originating from the capitalisation of proceeds on matching assets were, in fact, truly a property income of households, and not a revaluation.

covered by subsidies of similar size during the period. It is suggested that strict criteria be applied, failing which, capital injections would be recorded as transfers (expenses). However, an accrual system would seemingly require that those losses be booked at time they accrued, not at time they are covered or financed.

27. Such recordings implicitly rely on **an asymmetric set of rules**, where lump sums paid by government are generally expensed but those received are financial transactions, whilst **both are in fact net worth neutral.** It seems that many statisticians would be willing to support such an asymmetric rule in order to prevent abusive recordings.

28. More generally, the question arises as to what is the true originator of the revenue or expense for government.

29. Specific rules may be required for indirect privatizations, for relationships with central banks, and lump sums in kind. In addition, operations may involve public corporations' debt cancellations or assumptions.

30. Public corporations are those corporations that are controlled by government, directly or indirectly. Control is generally established with 50% ownership, but sometimes can be exercised by other means, such as special legislation. Control is established directly or indirectly.

31. An important and interesting case is where the government is the sole owner. The presumption is therefore that the relationship between the 100%-owner and its subsidiary is unencumbered with other considerations due to minority shareholders. Transactions between them are therefore not necessarily at arms length.

III. Current statistical recording

A The 1993 SNA

32. The *1993 SNA* is rather not very prescriptive as to the treatment of transactions between government and its public corporations in general. However, interestingly, the *1993 SNA* has comparatively longer texts on quasi-corporations and direct investments.

Dividends, subsidies and capital transfers

Subsidies and capital transfers

33. SNA 10.141 foresees recording as other capital transfer (D.99) transfers from government units to publicly or privately owned enterprises to cover large operating deficits accumulated over two or more years.

34. SNA 7.78c. foresees that regular transfers paid to public corporations which are intended to compensate for persistent losses—i.e. negative operating surpluses (B.2)—which they incur on their productive activities as a result of charging prices which are lower than their average cost of production as a matter of deliberate government economic and social policy, be recorded under D.319 *Other subsidies on products*.

35. Hence, public corporations that run quasi-fiscal activities impact government expense at time of transfer of funds, instead of at time the event occurs, which seems clearly not in line with the accrual principle. The classification as subsidy (D.3) or as capital transfer (D.9) depends on the frequency of the

event, which seems somehow odd. The classification under *subsidies on products* instead of on *production* may also be debatable (with an impact on GDP).

Debt assumption / cancellation

36. Government may have lent funds to its public corporation and may later decide to cancel the loan (debt cancellation). Government may also assume loans granted by a third party to public corporations, when the latter cannot repay it (debt assumption).

37. SNA 10.139 and 12.52 indicate that debt cancellation by mutual agreement is treated as a capital transfer. It remains silent on the definition of mutual agreement and on possible different treatment for units with equity links.

Dividends

38. The *1993 SNA* does not particularly or specifically suggest whether D.42 *Distributed income of corporations* ought to be limited to a specific amount. Dividends are a form of property income to which shareholders become entitled as the result of placing funds at the disposal of corporations (SNA 7.113). SNA 7.114 indicates that "it encompasses all distribution of profits by whatever name they are called", underlying the usual substance over form position of the *1993 SNA*, but also emphasizing the reference to "profit" (SNA 7.117 too).

39. However, SNA 7.114 mysteriously indicates that whilst "dividends may occasionally take the form of an issue of shares", "issue of bonus shares which represent the capitalization of own funds in the form of reserves and undistributed profits are not included." This could be interpreted as suggesting that the same event: the distribution of shares to shareholders is treated differently when the intention is to distribute the profit of the year from when there is distribution of reserves. More satisfactorily, ESA 4.54 and 5.93 clarifies that "bonus shares" are remittance of new shares to shareholders **in proportion to their holdings**. Usefully, ESA 5.93 refers to splits, which by the same token are not transactions (ESA 6.56 prescribes that possible increases in market value due to split, owing to liquidity considerations, are revaluations).

40. The *1993 SNA* does not mention shares and other equity in the Revaluation chapter, and does not discuss the fact that the observed fall in values on the market in quoted share on the day of the distribution of a dividend is recorded as a revaluation (K.11) rather than a transaction. It is however debatable whether such a fall in value represent a price change (what price did change?) instead of a volume change. SNA 3.99 recognizes that "the level of dividend is not unambiguously attributable to a particular earning period...."

41. In addition, SNA 8.15 indicates that in the economic literature "income is often defined as the maximum amount that a household, or other unit, can consume without reducing its real net worth" and that "disposable income is better interpreted in a narrower sense as the maximum amount that a household or other unit can afford to spend on goods or services during the accounting period without having to finance its expenditure by reducing its cash, by disposing of other financial or non-financial assets or by increasing its liabilities".

42. Interestingly, SNA 7.93 defines D.41 Interest, a type of property income, as "the amount that the debtor becomes liable to pay to the creditor over a period of time without reducing the amount of principal outstanding".

Quasi-corporations

43. Quasi-corporations are unincorporated entities or enterprises that function as if they were corporations (SNA 4.49), even though they do not formally meet the institutional unit definition spelt out in SNA 4.2. To be a quasi-corporation, full sets of accounts must be available. The equity stake of the owner in the quasi-corporation is such that the net worth of the latter is always zero (SNA 13.73).

44. Property income is the income receivable from a financial asset in return for providing funds (SNA 7.88). The income that the owner of quasi-corporations withdraws from them is analogous to the income withdrawn from corporations by paying out dividends to their shareholder (SNA 7.89).

45. SNA records the property income received by the owners of quasi corporations within a separate subcategory D.422 *Withdrawal from income of quasi-corporations* of the category D.42 *Distributed income of corporations*, separate from D.421 *Dividends*.

46. SNA indicates that the amount recorded under D.422 has to be explicitly identifiable (SNA 7.116) and that it will depend largely on the size of the entrepreneurial income (SNA 7.117).

47. D.422 excludes withdrawal of funds realized by the sale or disposal of the quasi-corporations assets or of large amounts of accumulated of retained earnings, or other reserves (SNA 7.118).

48. Conversely, funds provided by the owner for the purpose of acquiring assets or reducing liabilities should be treated as transaction in equity, unless it is to cover persistent operating deficits as a matter of deliberate government economic and social policy (SNA 7.118).

49. In conclusion, for quasi-corporations, the *1993 SNA* explicitly prescribes retreating superdividends as financial transactions, and capital injections designed to cover losses as capital transfers.

Reinvested earnings

50. The *1993 SNA* foresees (in line with the *Balance of Payments Manuals*) a specific treatment of property income on equity stakes / shares held in the form of direct foreign investments (DFI). A DFI enterprise is where a foreign investor owns a sufficient stake in a corporation to have an effective voice in its management (SNA 7.119). SNA 14.152 defines DFI as an "incorporated or unincorporated enterprise in which an investor ... owns 10% or more of the ordinary shares or voting power ... or the equivalent...".

51. The system requires that retained earnings of a DFI be treated as if they were distributed to the foreign direct investors and then reinvested back (SNA 7.120).

52. The rationale is that since a direct foreign investment enterprise is subject to control or influence by a foreign direct investor, the decision to retain some of its earnings within the enterprise must represent a conscious deliberate investment decision on the part of the foreign direct investor (SNA 7.121).

Privatization

53. Cash receipts resulting from the disposal of equity stakes in public corporations being privatized are recorded as transaction in equity (F.5)—below the line. However, the disposal by government of non-financial assets (AN.) reduces net lending / net borrowing (B.9).

B The ESA 1995 Manual on Government Deficit and Debt

54. Whilst the ESA 1995 is an adaptation of the 1993 SNA, with minimal departures, the Eurostat *ESA 1995 Manual on Government Deficit and Debt* (MDD) has developed a substantial jurisprudence to the effect of providing reasonably solid guidance in the context of the European fiscal multilateral surveillance arrangement (Excessive Deficit Procedure).

The ESA 1995

55. The ESA 1995 retains a similar, if not identical, approach to that followed in *1993 SNA*.

56. Noteworthy differences are [to be completed]:

- ESA 6.27d indicates that when the debtor unit is controlled by the creditor unit "the writing-off or writing-down of debt not due to bankruptcy is recorded in the accumulation accounts" as a capital transfer (instead of an other change in volume). Hence, this paragraph adds the control criteria for deciding on the classification of flows. It would be interesting to see whether such a criteria would be extended to debt assumptions.

- ESA 4.58 refers to "trading profit" instead of "entrepreneurial income" and ESA 5.61 mentions "withdrawal of capital" defined as partial or total liquidation of one's equity to be treated as "withdrawal from equity in the financial account".

57. In addition specific treatments for debt assumption / debt cancellation are provided. ESA 4.165f specifically mentions debt assumptions in addition to debt cancellation. Further it prescribes:

a. Recording the event as a financial transaction when the beneficiary is a quasi-corporation or when it is a public corporation taking part of an ongoing process of privatization to be achieved in a short-term perspective.

b. Recording the event as an Other change in volume, when the beneficiary disappears.

58. ESA 4.165g specifically indicates that proceeds of indirect privatization, whereby a public corporation sells whole or part of a subsidiary and forwards the proceeds to government, are treated as a financial transaction (F.5) instead as a capital transfers (D.9).

The Manual on Government Deficit and Debt (MDD)

59. Whilst the ESA 1995 is a legal act (a European Parliament and Council Regulation), the MDD has no specific legal status. However, the MDD is particularly important in Europe as far as it lays a body of rules, established by Eurostat, which intends to provide an interpretation of ESA 1995 to compilers.

60. Ninety-six pages of the MDD (or nearly half of the 243 pages of the Manual) are dedicated to its Part II *Relation between the government and public enterprises*. The chapters are:

- II.1 Overview of Principle
- II.2 Sales of assets (privatization)
- II.3 Capital Injection
- II.4 Government and public enterprise debt
- II.5 Government and the financial sector

Dividend

61. The MDD indicates that "it is understood that streams of payments made by an enterprise to its owner from its income should keep its net assets constant" (II.1.1.4.a). The "resources from which the dividends have to be paid should neither include the proceeds of sales of assets nor the revaluation gains." "Revaluation proceeds as well as assets sale's proceeds are not distributable as income." While dividend smoothing is legitimate, a "large and exceptional payment out of reserves—significantly reducing the own funds of the corporation—is different. It should rather be treated as transaction in shares and other equity (capital withdrawal)." (II.1.1.4.b).

62. The MDD concludes in II.1.2.1: "Dividends arise from the government ownership of the unit. They, apply to payments that are funded from the unit's income. Dividends do not apply to payments funded by asset sales, capital gains, or reserves accumulated over several years, even if they are called dividend." "Withdrawal of equity includes significant one-off payments made to Government. The payment is funded by the liquidation of assets such as drawing on accumulated reserves; sales of financial or non-financial assets; or realized capital gains."

Capital injection

63. Capital injections refer to situations where the owner "recapitalizes" its enterprise by way of transferring assets or discharging it from its liabilities. The central question is whether the capital injection should be booked as a capital transfer (expense) or as an equity injection (transaction in equity). The MDD chapter II.3 focuses on this sole aspect.

64. When the government, acting for public policy purposes, provides funds to a corporation without receiving financial assets and without expecting property income, the capital injection is to be recorded as a capital transfer. II.3.1.2

65. When the government, acting as a shareholder, provides funds receiving financial assets and expecting dividends in return, the capital injection is to be recorded as a financial transaction in shares and other equity. II.3.1.2

66. A capital injection made to cover expected future losses, as well as repetitive losses, should be recorded as capital transfer (D.9), even if shares (or equivalent) are issued. II.3.1.2.3. This statement enforces the substance over form approach taken by the *1993 SNA*.

Other issues

Central banks

67. The MDD clarifies that lump sum payments, in excess of operational margins, by Central banks to government should be recorded as capital withdrawal (or equity withdrawal), not as government revenue.

68. Central banks earn most of their operating profits from the difference between the interest received on their assets (foreign reserves and lending to the banking sectors or government) and the interest paid on their liabilities (banknotes (zero interest), banks' deposits, and sometimes foreign borrowing). The net result of those operations, also net of operating costs, is the amount distributable under dividend (D.42).

69. Quite separately, Central banks net reserve assets positions, such as gold or foreign exchange, have tended to generate holding gains over time (for those countries with higher inflation than the inflation

observed in countries whose liabilities constitute others countries' reserve assets). Those gains are often booked as "reserves" in Central banks accounts. The MDD indicates that lump sum payments corresponding to the distribution of those reserves, regularly or irregularly, or to the distribution of the proceeds of the sale of those assets, is to be treated as a financial transaction. II.5.1.2-a and -b.

70. The MDD indicates that the amounts distributed by Central banks to government in excess of the amounts distributable (as measured above) are to be recorded as a financial transaction (II.5.2.c).

Indirect privatization

71. The MDD clarifies that in cases where public holdings keep privatization proceeds to engage into expenses of a government nature: to "support loss making activities as part of government economic and social policy" or to "give grants and subsidies outside the group", transaction should be rerouted via government accounts.

C The GFSM 2001

72. The *GFSM 2001* generally aligns on the *1993 SNA*, although it may at time incorporates additional guidance and rarely deviations. The IMF Government Finance Division intends to provide additional guidance notes to be regrouped in the form of a Companion Material.

Distribution to government

73. GFSM 5.87 and 6.74 specifically and explicitly recognize the important boundary between dividend (non financial transactions, i.e. government revenue) and capital withdrawal (financial transaction, i.e. financing) and the fact that dividends distribute the income of the period, exclusive of holding gains and losses of the year or of the distribution of previous years income (distribution of reserves). A tolerance is provided for cases where dividend payments are smoothed by the corporations and may exceed the income of the period. The GFSM 5.87 states: "When payments are received from public corporations, it can be difficult to decide whether they are dividends or withdrawals of equity. Dividends are payments a corporation makes out of its current income, which is derived from its ongoing productive activities. A corporation may, however, smooth the dividends it pays from one period to the next so that in some periods it pays more in dividends than it earns from its productive activities. Such payments are still dividends. Distributions by corporations to shareholders of proceeds from privatization receipts and other sales of assets and large and exceptional one-off payments based on accumulated reserves or holding gains are withdrawals of equity rather than dividends."

74. GFSM 10.17 recognizes that distribution of dividends reduces the net value of corporations (improperly called net worth in this paragraph), to be recorded as a holding loss. (revaluation account).

75. GFSM 9.38 prescribes the recording of privatization[4] proceeds direct or indirect as financial transactions.

76. Interestingly, GFSM 9.35 indicates that the disposal of whole government units is also booked as a transaction in equity, on presumption that a quasi-corporation was constituted just immediately prior the sale. "Government units also can be privatized. If the assets disposed of as a single transaction constitute

[4] Privatization is sometimes reserved for disposals of (controlling) equity stakes by government in public corporations (see the entry "privatization" in the ECB Monthly Bulletin Statistical Annex Table 6.3.2). Sometimes, it extends to the disposal of government non-financial assets, which then requires possibly different recordings.

a complete institutional unit, the transaction should be classified as a sale of equity. The government is assumed to have converted the unit to a quasi-corporation immediately prior to disposal by means of a reclassification of assets, which is an other economic flow. If the assets disposed of do not constitute a complete institutional unit, then the transactions should be classified as a disposal of the individual nonfinancial and/or financial assets."

Injection by government

77. The *GFSM 2001* does not refer to capital injections as such, nor to recapitalization. However, it provides guidance on the recording of transfers of resources from government to public corporations.

Subsidies and other expenses

78. GFSM 6.61, 6.57 and 4.30 indicate that transfers intended to compensate for operating losses are recorded as subsidies, unless they cover losses accumulated for two years or more in which case they are recorded as other expense. GFSM 4.30 states: "***Subsidies*** are current transfers that government units pay to enterprises either on the basis of the levels of their production activities or on the basis of the quantities or values of the goods or services that they produce, sell, or import. Included are transfers to public corporations and other enterprises that are intended to compensate for operating losses." Transfers of funds to public corporations designed to facilitate public investment are recorded as other expense, according to footnote 17 of Chapter 4. GFSM 6.60: "Subsidies also include transfers to public corporations and quasi-corporations to compensate for losses they incur on their productive activities as a result of charging prices that are lower than their average costs of production as a matter of deliberate government economic and social policy. If such losses have been accumulated over two or more years, the payments are classified as *miscellaneous other capital expense* (2822)." GFSM 6.57: "Payments to enterprises to finance their capital formation, to compensate them for damage to non-financial assets, or to cover large operating deficits accumulated over two or more years are *miscellaneous other capital expense* (2822)."

79. "Regular transfers to quasi-corporations to cover persistent operating deficits are subsidies, and regular withdrawals from the income of quasi-corporations are property income"(GFSM 9.36).

Debt assumption, cancellation, guarantees

Public corporations net worth

80. To start with, it is worth noting that GFSM 7.140 suggests that the net worth of public corporations other than those that are quoted should be set at zero: their equity liability should be set equal to their net assets. This treatment extends the *1993 SNA* treatment for quasi-corporations to such public corporations. GFSM 10.19 concludes "that the holding gain is equal to the change in the total value of this measure of the equity, taking into account additions to and withdrawals from equity that may have occurred."

81. An essential consequence is that operations between government and the public corporations tend to lead to automatic changes in equity positions. The question is then: does such a change arise from a transaction or from a revaluation?

Debt operations and notion of effective claim

82. The Appendix II of the *GFSM 2001* focuses on debt operations, including guarantees, debt assumption, debt cancellation, and debt for equity swaps. Public corporations can be the beneficiary of such events.

83. Appendix II puts an emphasis on the "claim" that government received in exchange for the debt operation in question, and whether the claim is "effective" or not. The claim is "effective" when "there is a realistic probability that it will be paid" (Appendix II #5) or will yield benefits in future. When an effective claim is acquired, the claim is recognized on balance sheet by way of transaction: the event is a financial transaction for government and does not give rise to an expense. Otherwise the event is expensed. The question is complicated on account of who is the beneficiary.

84. Whence the beneficiary is a private corporation, a debt operation gives rise to an expense when:

- Government does not acquire claim: government exchanged something against nothing and its net worth has decreased.

- Government acquires a claim that is not effective: the net worth has also decreased because the market value of that claim is minimal or even zero.

It is worth noting that in both cases the net worth of the corporation has increased.

85. When the beneficiary is a public corporation (100% owned), such debt operations are neutral for government, as the increased value of the beneficiary just exactly and automatically compensates for the adverse impact of the debt operation in government accounts. Should the event be expensed?

86. Appendix II is not completely clear (when no effective claim is acquired):

- (a) In the case of debt assumption[5], "the assumption amounts to an increase in the equity owned by government" when the beneficiary is an on-going public corporation,[6] whilst it gives rise to a capital transfer when it is a bankrupt public corporation (para 6).

- (b) In the case of debt payments on behalf of other units, an expense (subsidy) is booked when the beneficiary is a corporation (para 8).

- (c) Debt forgiveness is the cancellation of debt by mutual agreement. It always involves an expense (Para 9).

- (d) Debt-for-equity swaps are cases where the abandoned debt is exchanged against an equity stake. The difference in market value between the debt and the equity stake is recorded as a transfer where a debt forgiveness took place, and is not expensed otherwise (para 15).

- (e) A write off without bilateral agreement, such as in case of bankruptcy or when a public corporation is insolvent and is liquidated, is recorded an "Other economic flow" likely to be an other change in volume (para 12). A unilateral write down is treated similarly to a partial write off.

---

[5] Para 4 of the Appendix II restricts cases of debt assumptions to cases of activation of guarantees. This generally seems unnecessarily restrictive.

[6] This sentence can either be generously interpreted as a tautology, which imparts no recommendation of recording regarding the flow in question; or it can be interpreted as meaning that the change in quasi-corporation equity is a revaluation, which supposes that the debt assumption is not expensed.

87. The rules set in the Appendix II seem not completely coherent with the core of the system or between themselves.

- (a) and (b) differ in expensing, whilst only the timing of the event differs.
- (a) and (e) differ in expensing for bankrupt corporations.
- (c) and (d) differ in expensing for the amount corresponding to the difference in market value between the acquired claim and the part of the debt that is not covered by a forgiveness arrangement.
- Whilst (b) and (c) are consistent with the subsidy and capital expense treatments seen in the core of the text, (a), (d) and (e) are not.

D Conclusions

88. Statistical systems have tried to establish rules to the effect:

a. of avoiding transforming holding gains into income as well as cherry picking the time of recording of government revenue; and

b. of avoiding that quasi-fiscal operations be carried out without being expensed ever.

89. The jurisprudence established by Eurostat and the *GFSM 2001* has been reasonably successful in sketching broad principles designed to avoid undue fiscal beautification. However, this has not been an unmitigated success. A charge can be made of massive asymmetric bias and cherry picking:

a. Asymmetry: the distributed profits are booked for the amount earned during the period—"too bad" for earlier undistributed profits. Injections are in contrast booked as expense more systematically and for the whole amount, even long time after the event (the loss). Injections in the form of debt operations are even recorded in various ways, opening the gates to substantial adverse statistical incentives.
b. Cherry picking: injections are to be classified according to the expected performance, a judgment for which the statisticians may be ill-equipped.

90. Two other serious charges are that the rules do not tackle head-on two large deviations to the spirit of the system: accrual principle and the net worth neutrality of revenue/expense:

a. Expense and revenues are defined as transactions that change the net worth (*GFSM 2001*). Nevertheless dividends from, and capital injections in, public corporations are net worth neutral: they are fundamentally in the nature of a financial transaction, decreasing (or increasing, respectively) the public corporation liquidity to the advantage (or to the disadvantage) of the government liquidity; they are not revenue/expense.

b. The accrual principle suggests recording amounts at the time the underlying event occurs: dividends are distribution of profits, and superdividends are simply distribution of mainly past periods' profits to be recorded at time of profit earned (instead of at time of distribution). In the same vein, capital injection is deemed to cover for past losses and ought to be booked at time losses were incurred, not at time of recapitalization.

91. The next section looks at an alternative treatment which has the potential to redress those weaknesses.

IV. Accounting Rules

A Terminology and consolidation rules in GAAP

Notion of accounting consolidation

92. Traditionally, GAAP focuses on the establishing of financial statements of groups of entities, which are under same control (then called **economic entity**): **the consolidated financial statement**, in addition to the **separate financial statement** that the controlling entity would establish.

93. In other words, it is the control criteria that decides on the coverage, in contrast to the statistical world where sector or sub-sector coverage is determined on other criteria (mainly economic behavior of entities). Hence the use of the term consolidation is extremely misleading as it carries a specific meaning in terms of coverage for accountants, whilst not for statisticians. It is hence recommended to specify in future discussion whether the consolidation referred to is of statistical or accounting sort.

94. Hence, under GAAP (such as IFRSs or IPSASs), the accounting for ownership relationship of an investor in an investee requires first establishing whether consolidation is required and if not whether influence is established. Eventually, such an accounting can follow four modalities depending on the type of established link.

95. **Full consolidation** (see IPSAS 6 and IAS 27). When an investor exercises control on the investee, the accounts of the **controlled entity** (the **subsidiary** in IAS 27) are added to those of the **controlling entity** (the **parent** in IAS 27). Control is the power to govern the financial and operating policies of another entity so as to benefit from its activities; control hence encompasses two aspects: power and capacity to benefit – though the latter may simply reflect "the ability to direct the other entity to work with it to achieve its objectives, see IPSAS 6/27). Control is defined in IPSAS 6/ 25 and 36; it is often, but not exclusively, associated to cases of ownership of 50% or more. Whilst revenue, costs, assets, and liabilities of the former are added to that of the latter, reciprocal links are eliminated. In addition, a position minority interest in both profit and shareholder equity appears.

96. **Proportionate consolidation** (see IPSAS 8 and IAS 31). When a group of investors – the **venturers** – have established a binding arrangement (IAS: contractual arrangement) to jointly control operations or assets or of entities, GAAP foresees a different treatment. The accounts of jointly controlled entities[7] are added to the accounts of the venturer on a prorata basis, either aggregated line-by-line or under specific entries. No minority interest occurs. IPSAS 8 permits but does not recommend using equity accounting to venturers.

97. **Equity method** (see IPSAS 7 and IAS 28). When the investor exercise "sufficient influence" in the investee, the latter is then an **associate**. Sufficient influenced is described in IPSAS 16, included cases of representation to the board, participation to policy-making, interchange of managerial personnel or provision of essential specification. In case of ownership above 20% (and below 50%) it is often presumed, pending justification of the contrary, that significant influence is established. Investors accounts for associate by applying the equity method, where the former recognizes in its income statement (in its balance sheet) its prorated share in the profit (in the net assets/equity) of the latter.

---

[7] There is no specific need for jointly controlled operations or assets not involving a jointly controlled entity, as the separate financial statements of the venturers will already have accounted for each share of assets, liabilities, revenue, or expense.

98. In other case, when no control, joint control, or significant influence is determined, the equity stakes are booked using usual investment rules, often at cost, with the implication that distribution to shareholders scores as revenue of the investor. Investor do not account under full consolidation or proportionate consolidation or equity method, when the investment is held exclusively with a view to its disposal in the near future or operates under severe long-term restrictions that significantly impair the ability of the investor to extract meaningful benefits.

Impact on the accrual of earnings of the subsidiary/associate

99. It is worth noting that all three accounting approaches (full consolidation, proportionate consolidation and equity method) have the same impact on the income and equity of the owner (although each follows different level of netting category by category):

a. profits and losses of the subsidiary/associate are captured in the income statement of the parent/investor;

b. the prorated equity position of the subsidiary/associate appears in the equity of the parent/investor.

100. This contrasts sharply with the recording of other equity participation (at least when no mark-to-market is implemented): the equity stake of the owner stays captured at the acquisition price (eventually reduced for impairment) and income is recognized only at time and for the amount of dividend.

101. One may note that implementing market valuation in GAAP will cause this fundamental divergence between the consolidation and the no consolidation approaches to blur.

102. The following table summarizes the issue:

Impact on the net worth or profit and loss of the investor of profit and loss of the investee or the distribution of dividends - presented according to accounting method				
	Type of event			
	Impact of profit and loss of investee in the investor's		Impact of distribution of dividends in the investor's	
Type of accounting	net worth	profit and loss	net worth	profit and loss
full consolidation	Yes	Yes	No	No
proportionate consolidation	Yes	Yes	No	No
equity method	Yes	Yes	No	No
investment accounting	No	No	Yes	Yes
mark-to-market	Yes	Yes	No	Likely not
Realization: Ph de Rougemont				
July 12, 2004				

GAAP rationalization

103. IPSAS explicitly indicates that the equity consolidation is necessary because significant influence (e.g., stake of more than 20%), would not meaningfully allow dividends to be recognized as income.

a. IPSAS 7/19: "The recognition of revenue on the basis of distributions received may not be an adequate measure of the revenue earned by an investor.... As the investor has significant influence over the associate, the investor has a measure of responsibility for the associate's performance and, as a result, the return on its investment. The investor accounts for this stewardship by extending the scope of its consolidated financial statements to include...".

b. IPSAS....

Analogy with statistics

104. In contrast to accounting, statistics do not enforce full or partial consolidation accounting but instead prescribes equity accounting (but more exactly market value accounting) in the sense that, other things being equal, a profit of the subsidiary will immediately increase the net worth of the owner, whether a dividend is distributed or not.

105. Market value accounting arguably adds to the change in equity value due to accrued operational profit, other changes in value reflecting holding gains/losses on assets and liabilities of the investee or other independent changes in value reflecting the perception of investors (the market") towards the investee. It seems useful to declare the first type of changes volume changes, and the two latter price changes.

106. However, in *1993 SNA* the direct impact of the profit/loss of the investee on the net worth of the investor does not transit via income, but via revaluation, except for the Rest of the World account. Following the equity accounting example, the BOP books the whole earnings of subsidiaries when held at more than 10%: using the 1993 SNA categorization, this amounts to complementing the position D.42 by an item D.43 *reinvested earnings on direct investment.*

107. It is worth noting that analogies between accounting and statistics have a fundamental limit, in so far as:

- Statistics distinguish between income and revaluations, in contrast to accounting; and
- Statistics use market valuation.

108. Hence, caution needs to be exercise when invoking such analogies.

V. Reinvested earnings

109. This part enquires on the option of extending the recognition of income to "accrued earnings", e.g., extending the "reinvested earnings" treatment, foreseen in the *1993 SNA* for foreign direct investments (see section II.A), notably to public corporations.

A The SNA recording for reinvested earning

This section repeats, for convenience, the text in II.A

110. The *1993 SNA* foresees (in line with the *Balance of Payments Manual* and *Guides*) a specific treatment of property income on equity stakes / shares in the form of direct foreign investment (DFI). DFI enterprises encompass corporations where a foreign investor owns a sufficient stake to have effective voice in its management. SNA 7.119.

111. The system requires that retained earnings of a DFI be treated as if they were distributed to the foreign direct investors and then reinvested back. SNA 7.120.

112. The rationale is that since a direct foreign investment enterprise is subject to control or influence by a foreign direct investor, the decision to retain some of its earnings within the enterprise must represent a conscious deliberate investment decision on the part of the foreign direct investor. SNA 7.121.

113. The *Balance of Payments Manual fifth edition* recommends classifying as direct investments, holdings of more than 12.5% in a given corporation.

B Conceptual attraction

114. The recording of reinvested earning has a considerable attraction because it avoids the anomaly of booking dividends as property income with its adverse counterpart booking of a matching holding loss in equity.

115. This recording instead accrues property income continuously over time, in recognition that profits are earned continuously over the period. This recording is similar to that of interest on a bond: the *1993 SNA* does not equate interest with coupon payments; and the fall in bond price at time of payment of coupon is not a holding loss but reflects a partial redemption in bond (redemption of its accrued interest component).

116. Shares increase in value over time because of systematic holding gains over the long run due to some kind of long term "inflation". However the value of shares also increases over time because companies tend to retain a substantial fraction of their earnings, in view of expanding their operations (such as buying equipment) or repaying their debt: this trend change in value of shares hence reflects an increase in their "volume", not in their "price". This is similar to a zero coupon bond or to an old wine maturing: the change in value has a component that is solely due to time passing. (SNA 12.110).

117. It would seem essential to recognize that increases in value due to accumulation of retained earnings are not price changes and do not generate holding gains. However, currently in the *1993 SNA* this increase is recorded as a change in price in the revaluation accounts. A more appropriate recording as a change in volume would require that a property income be deemed to be distributed and immediately reinvested on the instrument, similar to zero coupon bonds.

118. Such an apparent "fiction" of distribution immediately reinvested is exactly what shareholders decide when they vote on the coupon rate during the Annual General Meeting. Instead of voting a full distribution, and then regularly voting new share issues, they leave part of their income in the kitty. This fundamental choice made by the shareholder is explicitly recognized in the *1993 SNA* for direct investment (7.121), but unfortunately only for cross border relationships.

C How it would work

119. To show how the reinvested earning approach operates, one describes three simple events, looking at the books of government. The extension of the reinvested earning recording relies in practice on a few technical choices to be listed later below.

Basic description

120. Government would record, in addition to the dividend (D.421), the reinvested earnings of profitable public corporations (D.43.1), with a counterpart as addition to equity (F.5 transaction). The change in the net value of public corporations due to operating profits would be recorded, in the books of the government, as a transaction (in equity). Conversely, the loss making companies would yield an expense/subsidy (D.34.2—or, alternatively, a negative property income, D.43.2) with a counterpart entry in reduction in equity (F.5 transaction).

121. Hence, changes in their net value would be recorded, in the books of government, as a transaction (in equity). On the other hand, capital injections would be recorded as transactions in equity: against cash if realized in cash, or against an incurrence of a liability in case of debt assumption.

122. The fundamental change is that the **change in equity position observed in the books of the owner** (say, from 100 to 117), originating (other things being equal) on account of the part that is not distributed (10) of the profit on operations during the year (15), **is now in part a revenue (transaction) instead of a revaluation (as it is currently the case)**. Another 7 in change in equity originates from price changes in assets or liabilities of the investee. Then, we have:

		Current SNA	Proposed SNA
Revenue		5	15
of which: dividend	D.421	5	5
of which: reinvested earnings	D.43		**10**
Financing			
Cash	F.2	5	5
Equity	F.5		**10**
Revaluation			
Equity	K.11	**17**	**7**
Opening assets		100	100
cash	AF.2		
equity	AF.5	100	100
Closing asset		122	122
cash	AF.2	5	5
equity	AF.5	117	117

19/07/2004 12:35

123. It is worth noting that the balance sheet is unchanged: what is new is the type of economic flow under consideration to explain those changes: revaluation (K.11) or transaction (F.5). Hence revenue/expense accounts and its balance (within the "Statement of government operations" in GFSM 2001) do differ.

124. The proposal does not eliminate revaluations in the equity stakes of government: it only eliminates that part of the changes in value in equity stakes that reflects the operational profits and losses of the investee (subsidiary/associates). Revaluations in equity arises from other changes in the value of assets of the investee not reflected in its operational profit/losses as well as other change in value assigned by the market to the equity of the investee.

More complete numerical example

125. This section uses a more complete example. Assume that government owns three corporations A, B, C. Public corporation A earns 10 (also equal to its change in net assets) and distributes 4. Public corporation B losses 25 (also equal to its changes in net assets). Government transfers 3 to B. Government assumes 30 of debt originally owed by C, which had 0 in net profit for the year.

Reinvested earnings: numerical example

Government accounts with three public corporations (A, B, C)

		Proposed				Currently			
		A	B	C	Total gov	Total gov	A	B	C
	Expense	0	25	0	**25**	**3**	0	3	0
D3	*Subsidy*		*3*			*3*		*3*	
D.43.2	*Reinvested losses*		*22*	*0*	*22*	*0*			*0*
	Revenue	10	0	0	**10**	**4**	4	0	0
D.42	*Dividend*	*4*				*4*	*4*		
D.43.1	*Reinvested earnings*	*6*		*0*	*6*	*0*			*0*
B.9	**Balance**	10	-25	0	**-15**	**1**	4	-3	0
	Balance	10	-25	0	**-15**	**1**	4	-3	0
	Transaction assets	10	-25	30	**15**	**1**	4	-3	0
F.2	*Cash*	*4*	*-3*		*1*	*1*	*4*	*-3*	
F.5	*Equity*	*6*	*-22*	*30*	*14*	*0*			
	Transaction liabilities	0	0	30	**30**	**0**	0	0	0
F.3	*Debt*			*30*	*30*	*0*			
	Net impact				**0**	**-16**			
	Revaluation assets (+OCV)	0	0	0	**0**	**14**	6	-22	30
AF.2	*Cash*				*0*	*0*			
AF.5	*Equity*	*0*			*0*	*14*	*6*	*-22*	*30*
	OCV (+transaction) in liabilities	0	0	0	**0**	**30**	0	0	30
AF.3	*Debt*				*0*	*30*			*30*
	Change in net worth	10	-25	0	**-15**	**-15**	10	-25	0
	Change in assets	10	-25	30	**15**	**15**	10	-25	30
	Cash	*4*	*-3*	*0*	*1*	*1*	*4*	*-3*	*0*
	Equity	*6*	*-22*	*30*	*14*	*14*	*6*	*-22*	*30*
	Change in liabilities	0	0	30	**30**	**30**	0	0	30
	Debt	*0*	*0*	*30*	*30*	*30*	*0*	*0*	*30*

2/2/2004 22:16

126. One observes that the change in government net worth is -15 (because A gains 10 and B loses 25). This is fully booked as surplus/deficit of government ***under the proposed recording***. Currently in the *1993 SNA*, a surplus of 1 is booked (somehow reflecting a cash approach), and holding losses of 16[8].

127. This examples illustrates two major difficulties:

a. the deficit/surplus is very sensitive to the classification decision of the event.

b. Revaluation entries occur that do not seem to relate to changes in any "price" on the market.

Additional choices to make

128. For the application of the reinvested earnings model, there are some choices to be made:

a. Expense losses, or alternatively book them as negative revenue.

b. Book reinvested earnings (in addition to dividends) or full earnings (of which dividends can be shown). This is largely a presentational issue.

c. Clarify the measure of the profit to distribute. It could be net saving, as currently D.43 is geared at doing (SNA 7.122), or a wider or more flexible criteria (as an example, banks systematically write-off impaired loans as part of their normal activities, but those are recorded as Other changes in volume of assets—it would be normal to incorporate those in the measure of earnings). Whatever is decided, it would have to relate to *1993 SNA* / ESA95 concepts and measurements.

D GFS interest

Compelling reasons

129. GFS has a strong interest in applying reinvested earnings at least for company fully under government control, in particular those 100% owned. The case for public corporations is more compelling than for foreign direct investments, particularly for 100% owned public corporations:

- The government control is often complete or predominant.
- The owner is also an entity well aware of being measured by statisticians.

130. The other compelling arguments for such an application are:

- The tightening of the definition of expense and revenue this would impart, and the significant improvement in the definition and meaning of the revaluation account.
- The improvement in the accrual recording, with measuring the amounts at the time the underlying event occurs (the profit, the loss).
- Symmetry and comprehensiveness, with treating at par profits and losses, that is encompassing the whole public sector activities: those public corporations, which make losses and those, which make surpluses.

[8] unless the debt assumption would be booked as a transfer (as perhaps would be the case following the MDD, but not necessarily the *GFSM 2001*) in case of which the deficit would be -29 and holding gains 14.

- Simplicity, with avoiding the judgmental (cherry picking) approach required now under the MDD and the GFSM 2001 rules.

131. It is expected that the explanatory power of fiscal indicators would considerably improve as quasi-fiscal operations would be captured at the time of their impact on the economy (i.e. the public corporation loss) rather than at time of rescue (i.e. recapitalization). The property income distributed by public corporations is arguably neutral in terms of aggregate demand: it is adequate that they be neutral on fiscal main aggregates.

132. The fiscal indicators would considerably gain in international comparability. Currently, some governments carry out considerable quasi-fiscal operations via their public corporations, whilst others do not. In this context, international comparisons can currently be particularly misleading.

133. The quality of the stock-flow articulation would be considerably improved.

134. Statistical incentives that currently exist would disappear, helping government to focus more exclusively on management issues instead of on accounting issues. It is plausible that the more direct statistical impact of the headline figure of the results of public corporations may create incentives for government to work on the improvement of their finance. This may lead to a useful bias in favor of increasing public services prices, whereas the only existing biases are all in favor of their decrease.

Difficulties

Compilation difficulties

135. Against the compelling reasons stated above, one difficulty would be that compiling the reinvested earning components could be burdensome for compilers.

136. However, governments ought to keep sufficient records on the activity of their public corporations, which would allow statisticians to compile aggregates. Nonetheless, where the "balance" that is followed by public corporations supervisors deviates from the concept preferred by statisticians, flexibility may be advisable, with a view to focus the statistical resources on capturing the most relevant/largest operations.

Artificial construct

137. Another argument raised might be that such reinvested earnings are artificial in nature and would engender additional imputations in the accounts, never a satisfactory perspective. However, the issue here ***is merely a question of classification of flows***: the **change in balance sheet is observed**, and the question is only whether the flow in question is a transaction or a revaluation. In this respect, one can hardly talk of an imputation.

138. Negative entries in reinvested earnings may not be appealing, and a proposal would be to record "accumulating losses" as expenses amongst the category "subsidies" (D.34), instead of under property income (D.43).

Impact on the accounts

139. It may happen that the net impact of implementing the reinvested earnings approach would be to reduce the deficit of some governments, as the full earnings of healthy public corporations would be accounted now as government revenue (instead of merely the distributed part) while few public corporations would be recording losses. Such an impact is not really problematic and in fact welcome. It

relocates flows recorded as revaluation under transaction and more appropriately represents the property income on the assets of government. It reduces incentives for government to tap the capacity of its public sector to stimulate by stealth the economy.

E Rest of the SNA

140. An extension of the application of reinvested earnings recordings does not have to be limited to public corporations: it may also extend to other equity stakes or to other sectors.

Extension to all instruments and all sectors

141. A case can be made that reinvested earnings could be generalized to all equity and shares. Indeed, many corporations in the USA and now in Europe have more and more geared, over the past decade, their distribution policy in relation to fiscal considerations: dividends may be taxed "twice" in contrast to holding gains; and dividends are "imposed" income to all shareholders, while the shareholder/taxpayer may be able to minimize overall taxation be choosing the moment of sale (under a buy-back scheme).

142. More and more corporations, including large multinationals, have skipped altogether the dividend and replaced it in full by "share buy-backs", while others have reduced it, or increased it less than otherwise would have been the case, by way of sponsoring substantial share buy-backs programs.

143. Under this condition, there is a serious risk that income series be distorted. Perhaps households' domestic income could be underreported, both on account of direct ownership and of indirect ownership via holdings in pension funds, life insurance, or mutual funds (when a transparency rule on property income applies). The household saving rates could be hence noticeably underestimated.

144. Conversely, a noticeable resumption of dividend distribution, owing to changed fiscal rules, is liable to distort the pattern of macroeconomic time series.

Extension to other sectors or to other instruments

145. Such an extension of reinvested earnings to all instruments and all sectors may be rather radical. A more modest approach would be an extension to all other direct investment within the economy, on account that the direct investor makes a deliberate decision regarding the distribution policy.

146. Another type of approach would be to extend the reinvested earnings approach to all instruments concerned by the sector in question: rest of the world and, as suggested in this part of this paper, government accounts.

F Threshold versus across the board generalization

147. The question can be seen hence on two axes: (1) the threshold above which reinvested earnings apply and (2) the sector, which applies it.

148. The thresholds can be thought of:

- 100%: cases where the owner and its subsidiary is undoubtedly "one". In those cases, the owner can engage into events that are not at arms' length, with major classification difficulties. It would seem essential for GFS that solid rules be put in place.

- 50%: cases where the majority owner can truly "influence" events. There is clearly control, although the existence of minority shareholders tends to provide guarantees against events not at arms' length.
- 20%: the traditional threshold for associates used in accounting.
- 10%: traditional direct investment threshold in balance of payments statistics.
- 0%: application of reinvested earnings to all equity stakes: direct investment or portfolio investment. As seen above, this option reflects the notion that the no distribution of profits increases the volume of the company, rather than the importance of control.

149. The sectors can be:

- Rest of the World;
- General Governments; and
- Corporations.

150. We can hence summarize the situation the following way:

	Sector		
	RoW	General Government	Corporations
100% ownership			
50% ownership			
20% ownership			
10% ownership		??	
0.1% ownership			

Current SNA
Possible vertical extension
Possible horizontal extension

2/2/2004 23:05

151. Although not an absolute requirement, national accountants prefer when rules apply across the board to all sectors. Occasionally, the *1993 SNA* encompasses sector specific rules, but this is rare[9]. We can conclude that it would be an advantage if any rule followed would be applied across the board. In this respect, the 100% threshold is attractive because applying the reinvested earning treatment seems compelling including for (all) 100% owned corporations.

152. Another consideration is that one may wish that all shareholders of the same enterprise be treated identically. This suggests using either the 0% or 100% thresholds (or not apply reinvested earnings altogether). However, the *1993 SNA* does not enforce such a rule, whilst there may be ground to treat large shareholders differently. It is worth noting that on the market, transactions in very large blocks are realized

[9] FISIM on deposits and loans recognized for financial intermediaries only; D.43 for Rest of the world; perhaps: output measured at cost for nonmarket producers.

at significant premiums (and occasionally discounts) to the market price (in some jurisdictions, the purchases of blocs above a certain level creates an obligation to launch an open offer).

153. GFS interest would be to apply reinvested earnings to 100% owned corporations at the very least, but also to 50% owned, or alternatively to all equity holdings. The 20% threshold is appealing to the extend that it harmonizes with accounting standards. The 10% threshold is not particularly appealing except that it is an established convention amongst statisticians.

154. Some balance of payments statisticians would like to reexamine the reinvested earnings treatment, and one option would simply be to increase the threshold (without necessarily changing the 10% threshold defining direct investment, an essential feature of balance of payments statistics).

VI. Conclusion

Recommendation 1: need for additional SNA entries

155. A first conclusion is that the relationship between government and public corporations provides a vast field of opportunities for misreporting of the fiscal situation, with difficulties related to both payments made by corporations as well as received by corporations.

156. The Eurostat (ESA 1995) and the IMF Statistics Department (*GFSM 2001*) have gradually developed a jurisprudence to the effect of:

a. preventing booking revenue in one period related to other elements than to income of the period; and
b. forcing the expensing of the recapitalization of public corporations.

157. Therefore the SNA review would be an opportunity to provide additional language with a view to address the issue.

Recommendation 2: two options for the SNA review

Option 1: Expanding on and strengthening current rule

158. One option is to enshrine in the reviewed SNA the efforts described above, and to strengthen them, with a view to limit to a maximum unsound recording.

159. Particular attention ought to be given in relation to recapitalization of bankrupt public corporations or of corporations being privatized or recapitalization effected by way of debt operations.

160. However those efforts, whilst time consuming and liable to accusation of arbitrariness, do not tackle basic difficulties associated to the fact that dividends and capital injection are net worth neutral and therefore, do not meet the expense/revenue criteria. It also leads to recordings that essentially depend on the time of actual operations, hardly an accrual perspective of the world. Those weaknesses would have to be acknowledged in the updated SNA text.

Option 2: Applying reinvested earnings

161. Another option is to explore the reinvested earning approach. While it would be a change in the way statisticians have compiled government accounts, the method is already in use in the field of BOP statistics.

162. This method rightly focuses on the control of the government on public corporations and on changes in net worth. It considerably purifies the revaluation accounts and reinforces the accrual principle. It upholds symmetrical recording and comprehensiveness of coverage, whilst not prey to arbitrariness. The method is simple.

163. In addition, recording reinvested earnings of public corporations as income of government reinforces the analytical strength of fiscal account and bolster international comparability, currently gravely impaired.

164. One important consideration would be the threshold that GFS statisticians would feel would be most appropriate (100%, 50%, 10%, 0%), whilst considering at the same time the threshold that other statisticians in BOP and national accounts would be willing to contemplate.

Annex: Questionnaire on accruals of earnings on equity in SNA (superdividends, capital injections and reinvested earnings)

September 1, 2004

Team 1 of the Working Group 2 of the TFHPSA

1. **In the context of classifying transactions between public corporations and government, is the existing *1993 SNA* adequate?**

☐ Adequate ☐ Not fully adequate ☐ Not adequate enough

If not fully adequate or not adequate enough, please explain why

2. **Have you observed actual cases in your country where this is a problem?**

3. **What do you think of the *Eurostat Manual on Government Deficit and Debt* (*MGDD*) guidance on capital injections and superdividends?**

3.1 Capital injections

☐ a) Not helpful

☐ b) A helpful interpretation of the existing SNA, and should be part of the updated SNA

☐ c) Better than nothing, but a more substantial reform is needed for the updated SNA

3.2 Superdividends

☐ a) Not helpful

☐ b) A helpful interpretation of the existing SNA, and should be part of the updated SNA

☐ c) Better than nothing, but a more substantial reform is needed for the updated SNA

Other comments:

4. **If 3{a} or 3{c}, what are the main weaknesses with the Eurostat MDD?**

Main weakness	Somewhat a weakness	Not a weakness	
☐	☐	☐	a) asymmetry
☐	☐	☐	b) cherry picking
☐	☐	☐	c) deviation from the revenue/expense criteria for dividends and capital injections
☐	☐	☐	d) such events, though booked as government expense/revenue, are not demand expanding/contracting
☐	☐	☐	e) deviation from accrual recording (time of recording)
☐	☐	☐	f) having to record as a revaluation (rather than as a transaction) the fall in value of shares at time of dividend distribution

Other comments:

5. Do you agree with the accruals of earnings approach described in the paper?

☐ Yes/Broadly Yes ☐ In some measure ☐ No/Not really

Other comments:

6. Would accrual of earnings pave the way to convergence with IPSAS/GAAP?

☐ Yes ☐ Perhaps/In some measure ☐ No

6.1 Should convergence with IPSAS/GAAP be a main/important consideration in the SNA review?

☐ Yes ☐ To some extend ☐ No

Other comments:

7. Do you consider that accrual of earnings should be applied consistently across national accounts, or could be only extended to particular types of corporations

☐ Only consistently ☐ Preferably, but not necessarily ☐ Not important

Other comments:

8. If particular types, which ones?

Yes	Perha	No	
☐	☐	☐	a) all 100% owned public corporations
☐	☐	☐	b) all public corporations (i.e., above 50%)
☐	☐	☐	c) all associates of government/public corporations (i.e., above 10 or 20%)
☐	☐	☐	d) all equity stakes of government/public corporations
☐	☐	☐	e) all 100% ownership (public / private)
☐	☐	☐	f) all subsidiaries (i.e., above 50%)
☐	☐	☐	g) all associates (i.e., above 10 or 20%)
☐	☐	☐	h) all equity stakes

Other comments:

9. Do you think accrual of earnings should be extended to mutual fund shares in SNA, as it is already the case in ESA 1995?

☐ Yes ☐ Perhaps/In some measure ☐ No

Other comments:

10. Technical issues

10.1 What should be the definition of earnings to accrue?

Yes	Perhaps	No	
☐	☐	☐	a) The current SNA definition
☐	☐	☐	b) The current SNA definition amended for bad loans
☐	☐	☐	c) Another definition

Other comments, and if c) please provide another definition:

11.2 What should be the treatment of losses?

Yes	Perhaps	No	
☐	☐	☐	a) negative revenue of the shareholder
☐	☐	☐	b) expense of the shareholder
☐	☐	☐	c) subsidy/expense for 100% own public corporations and negative revenue otherwise

Other comments:

11.3 Assuming accrual of earnings is retained: should the reinvested part be shown as a subcomponent of a new SNA equity property income position, or should the 1993 SNA presentation be retained? Or should solely the accrual of earnings be shown under SNA?

Strong preference	Slight preference	Does not agree	
☐	☐	☐	a) show the reinvested part as a subcomponent of a new "earnings/income on equity" position
☐	☐	☐	b) keep the *1993 SNA* presentation of two separate entries
☐	☐	☐	c) show only the accrual of earnings

Other comments:

For Official Use **STD/NAES(2004)14**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

08-Oct-2004

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)14
For Official Use

National Accounts and Economic Statistics

ISSUES PAPER: COSTS OF OWNERSHIP TRANSFER ON NON-FINANCIAL ASSETS

This paper has been prepared by Anne HARRISON - OECD

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12 - 15 October 2004
Tour Europe, Paris La Defense

Beginning at 9:30 a.m. on the first day

For further information please contact
Ann Harrison
E-mail: anne.harrison@oecd.org

JT00171047

English - Or. English

ISSUES PAPER: COSTS OF OWNERSHIP TRANSFER ON NON-FINANCIAL ASSETS

Commentary

1. An issues paper of this title was submitted to the February ARG under reference SNA/M1.04/12

2. At that time, the AEG accepted points I and ii but referred the further three points back to the Canberra II group for further consideration. After extensive discussion, which bore out the statement in the first paragraph

3. "There is agreement this issue in not clear cut and the solution adopted must be "less worse" than the others rather than clearly and unequivocally correct."

4. The Canberra II group confirmed its support for the other three points as originally submitted. In respect of the last, however, it was noted that when terminal costs were either not anticipated or could not be [predicted with reasonable accuracy, they could be recorded as gross fixed capital formation when they occurred and written off as consumption of fixed capital immediately.

SNA/M1.04/12

Issues paper: Costs of ownership transfer on non-financial assets

Executive summary

The question of whether to treat costs of ownership transfer as current or capital enditure has been debated at length over a period of time. It was the subject of extensive :ussion during the 1993 SNA revision and of an EDG moderated by Peter van der Ven during 9. The subject was further discussed at two meetings of the Canberra II group on non-financial :ts, in April 2003 and October 2003. In all these fora, advantages and disadvantages of tment as either current or capital expenditure have been advanced. There is agreement that the ie is not clear cut and the solution adopted must be "less worse" than the other rather than irly and unequivocally correct. The Canberra II group, and the contributors to the EDG, were t in their views about how to proceed and most individuals involved also see arguments for and inst different alternatives and make a choice on the basis of a balance in favour of one solution nother rather than an absolute preference of one solution and rejection of others.

In the end all these groups have decided that the present SNA position of treating costs wnership transfer on non-financial assets as capital expenditure should be maintained but there some refinements to the time of recording of these transactions which the Canberra II group mmends. The background to the issue is summarised in section B and the recommendations made in section C below. The recommendations proposed to the AEG are the following:

i. Costs of ownership transfer of non-financial assets should continue to be recorded as fixed capital formation.

ii. Costs of ownership transfer incurred on the acquisition of an asset should be written off over the period the owner expects to hold the asset. (The SNA currently says over the entire life of the asset.)

iii. Costs of ownership transfer on disposal of an existing asset should be written off over the period during which the asset is held. This means making an estimate of disposal costs, if any, at the time the asset is acquired. (The SNA currently recommends disposal costs should be recorded at the time of disposal, treated as fixed capital formation and then written off immediately in the other changes in assets account.)

iv. Installation (and de-installation) costs and transportation costs should be included in the costs of ownership transfer when separately invoiced. When there is no separate invoice for these costs, they should be included in the acquisition price of the asset in question. (The SNA is ambiguous about where installation and transport costs belong.)

v. Terminal costs of assets, that is any costs which must be incurred at the end of an asset's life such as de-commissioning of nuclear power stations and dismantling of oil rigs, should be treated in the same way as costs of ownership transfer on disposal of an asset. (The SNA currently makes no recommendation on the treatment of these costs.)

3. Taken together, these recommendations provide a coherent and comprehensive treatment of costs of ownership transfer and related costs. All the recommendations are considered to be feasible with little extra cost.

4. Does the AEG agree with the proposal to make these relatively minor changes?

B Background and reasons for change

5. The 1993 SNA position on costs of ownership transfer on non-financial assets is the following:

i. Costs of ownership transfer are to be treated as fixed capital formation.

ii. For produced assets they are integral to the value of the asset to which they relate.

iii. For non-produced assets (specifically land) they are shown as a separate asset.

iv. Costs of ownership transfer incurred at the time the asset is acquired are to be written down over the life of the asset. If the asset is sold before the end of its life, the remaining costs of ownership transfer on acquisition not already written off should be written off in the other changes in assets account.

v. Costs of ownership transfer incurred when the asset in disposed of are treated as fixed capital formation but written off immediately in the other changes in assets account.

6. Disquiet with these recommendations, which was apparent during the 1993 SNA revision, arises from the following considerations.

7. The argument for treating costs of ownership transfer as capital formation is that the expected returns to the use of capital must be sufficient to cover costs of ownership transfer as well as the initial cost of the asset. On the other hand, the resale value of the asset as an existing (second hand) asset is independent of the costs of ownership transfer incurred by the previous owner.

8. The decision on how to treat costs of ownership transfer is different for financial and non-financial assets. Costs of ownership transfer on financial assets are treated as current expenses, intermediate consumption or final consumption as the case may be but costs of ownership transfer on non-financial assets are treated as capital formation.

9. Following the evolution of the value of a produced capital asset is complicated by incorporating the costs of ownership transfer into the value. The value realised on the sale of an existing assets does not necessarily reflect the value of the asset in the balance sheet at that time.

10. If assets are acquired to be used for a period of time less than their useful economic lives and then sold (as is often the case for rental cars and aircraft for example) the whole of the costs of ownership transfer on acquisition are not reflected in the costs of the unit owning the asset and NDP over a period of time is overestimated.

11. Similar arguments apply to the costs of ownership transfer on sale of an existing asset such as building equipment, where deinstallation and transportation costs (included in costs of ownership transfer) may also be significant.

12. There are some assets such as nuclear power stations and oil rigs where there are large costs incurred at the end of the assets life even though a transfer of ownership is not involved. The

1993 SNA is not explicit about how these "terminal costs" should be accounted for and this has given rise to extensive discussion.

i. Are they intermediate consumption incurred at the point of disposal? This could lead to a large negative operating surplus or could be incurred after production has ceased.

ii. Are they to be treated as costs of ownership transfer on disposal of an asset, that is as fixed capital formation which is immediately written off in the other changes in assets account?

iii. Is there some way these costs should be accounted for over the life of the asset, either as current or capital expenditure?

C Recommendations for change

13. An EDG to discuss the topic was set up in 1999 and moderated by Peter van der Ven. The moderator's report[1] concluded that although arguments had been advanced to change the treatment of costs of ownership transfer to have these always treated as current expenditure, there was not a clear majority in favour of this change and therefore the present 1993 SNA treatment should be preserved.

14. This report was presented to the Canberra II group on non-financial assets at their meeting in April 2003 in Voorburg. After some discussion where the same reservations were expressed, it was again agreed that there was no compelling majority in favour of a change to treating costs of ownership transfer as current costs. However, it was apparent some further clarification of the detailed recommendations would be beneficial and papers exploring these issues were discussed at the October 2003 meeting of the Canberra II group[2].

15. The discussion centered around three options. The first of these was to treat all costs of ownership transfer as current expenditure. The second was to treat them all as capital expenditure but with changes in the time of recording so that there would be no need in normal circumstances to have entries in the other changes in assets account. The third option, put forward by John Pitzer, was to treat the costs of ownership transfer on acquisition by the first owner as capital but all subsequent costs of ownership transfer as current expenditure. This also avoids the need for entries in the other changes in assets account.

16. The step by step implications of these three options were presented in a table to the members of the Canberra II group at its October 2003 meeting. This table is attached to this report. The group agreed that this was a fair summary of the options available and voted by a clear majority in favour of option 2.

17. The main reason for this choice is to preserve the link between the value of an asset to an enterprise and the value of the services to be rendered by the asset over the length of time it is held. The consequences for the SNA are as follows.

18. Costs of ownership transfer on non-financial assets on both acquisition and disposal are to continue to be treated as fixed capital formation. **The 1993 SNA is unchanged in this respect.**

---

[1] Van der Van, Peter, 1999: Registering of ownership transfer costs.

[2] Pitzer, John, 2003: Costs of ownership transfer; Harrison, Anne, 2003: comments on John Pitzer's paper; SEEA, 2003: Discussion on terminal costs (para 6.58 to 6.90)

19. When an asset is held by a single unit throughout its life and has no costs associated with its disposal, there will be **no change in the 1993 SNA recommendation**. This will apply to the majority of assets, though not some large and important ones in some countries.

20. The costs of ownership transfer on acquisition of an asset should be written off over the period during which the acquirer expects to hold the asset. **This is a conceptual change from the 1993 SNA** which recommends writing off over the entire life of the asset.

21. The expected costs of ownership transfer on disposal of an asset should be written off over the period the asset is held. (This means estimating eventual disposal costs, if any, when the asset is acquired.) **This is a conceptual change from the 1993 SNA** which recommends disposal costs be recorded at the time of disposal, treated as fixed capital and then be written off immediately in the other changes in assets account.

22. There is ambiguity in the 1993 SNA about whether installation (and de-installation) costs and transportation costs are to be included in costs of ownership transfer. It is recommended that such costs, when separately invoiced, should be treated as costs of ownership transfer and treated in the same way as other costs of ownership transfer. When there is no separate invoice for these costs, they will be included in the acquisition price of the asset in question. **Treating separately invoiced installation and transport costs as part of costs of ownership transfer is a conceptual change from the 1993 SNA.**

23. Terminal costs of assets, that is the costs incurred at the end of the useful life of an asset, are to be treated in the same way as costs of ownership transfer on disposal of an asset. **This is an extension to the 1993 SNA** which does not describe the treatment of these costs.

24. It would be helpful to introduce three explicit alternative valuations of assets in the SNA **in order to clarify** the explanation of the treatment of costs of ownership transfer:

i. ***disposal price*** which is the price which would be paid by a willing buyer to a willing seller for the asset in its current state (this corresponds to the market price of the asset),

ii. ***acquisition price*** which represents the market or disposal cost of the asset plus costs of ownership transfer on acquisition,

iii. ***realisable price*** which is equal to the disposal price less the costs of ownership transfer on disposal and also less final disposal costs (terminal costs)

25. Consumption of fixed capital for produced assets should be based on the acquisition price less realisable price of the asset (ignoring changes in prices over time). Thus when an asset changes hands at a point in time correctly anticipated when the asset is acquired, the cumulative value of consumption of fixed capital should be the decline in market price of the asset plus the costs of ownership transfer on acquisition plus the costs of ownership transfer on disposal (or terminal costs). In this case there will be no need to have entries in the other changes in assets account. If the asset changes hands earlier, or if the costs of ownership transfer on disposal differ from those anticipated, an amount reconciling the value of the asset to the previous owner and the market (disposal) value for the new owner may need to be entered in the other changes in assets account[3]. This amount will be positive if the asset changes hands more quickly than expected or

[3] The Canberra II group will recommend that the present other changes in assets account be split into two accounts; an other changes in the volume of assets account and a revaluation account. The exact placement of the adjustment discussed here, whether it is to entirely in one of these accounts or the other or split between the two will be recommended when the appropriate way of recording changes arising from obsolescence has been determined.

the costs of ownership transfer on disposal are higher than anticipated. A negative amount may appear if the costs of ownership transfer on disposal are less than anticipated. **This is not a conceptual change to the 1993 SNA but a change which follows conceptually from the changes above** in the elements which enter into the calculation of consumption of fixed capital[4].

26. Costs of ownership transfer for non-produced assets continue to be shown separately from the asset to which they apply. For produced assets, costs of ownership transfer should continue to be integrated with the asset to which they relate. It would be helpful, at least for working purposes, to show the elements of costs of ownership transfer separately from the market value of the asset to which they apply.

27. For most produced assets, where there are no expected disposal costs, the relation between the written down acquisition value at the beginning of the year and the end of the year will be explained by the consumption of fixed capital attributable to the asset for the year and any holding gains and losses applying to the asset. For non-produced assets the same relationship will hold except that the written down value of the initial costs of ownership transfer will be shown separately. When such an asset (produced or non-produced) changes hands at a point of time anticipated at acquisition, the written down cost of the asset (including any holding gains and losses) in the original owner's balance sheet will be equal to its disposable value because costs of ownership transfer for that owner on acquisition will have been written down to exactly zero.

28. For an asset with expected disposal costs or terminal costs, the cumulative consumption of fixed capital over the length of time the asset is held will exceed the initial acquisition price by the amount of the disposal or terminal costs, giving a negative entry for the present value of the asset in the balance sheet at the moment just before the asset reaches the end of its life or holding period (all items adjusted for holding gains and losses as necessary). This negative value will be offset exactly by the disposal or terminal costs, to be recorded as fixed capital formation when they are incurred, leaving a balance sheet value of zero with no need for entries in the other change in assets account.

D Other issues

29. These recommendations provide a single conceptual conclusion to the issue of costs of ownership transfer on non-financial assets.

30. There are some implications for the two manuals on capital stock published by OECD (*Measuring Capital Stock* and *Measuring Productivity*) but not for any other classification or international manual.

31. The practical feasibility of implementing these proposals is only a little more demanding than the present SNA procedures. Recommendation (ii) requires the determination of the period for which assets will be held as well as the period of their useful life and the derivation of capital stock and decline in its value relating to the costs of ownership transfer separately from those of the asset to which they apply. Recommendation (iii) will require adjustment to estimates of capital formation to take account of the expected costs of ownership transfer when assets are sold. In practice this will be dome in a fairly mechanical way and the recurrent estimation costs should be minor. Recommendation (v) will require careful estimates to be made for projects that

---

[4] This last paragraph assumes that the current practice whereby estimates of consumption of fixed capital are never recalculated in the light of later information is continued. If that convention were changed, there would be no need for the entry in the other changes in assets account as suggested above, instead estimated of consumption of fixed capital would be adjusted to ensure an exact equality between the cumulated consumption of fixed capital, the acquisition price and realisable price.

are likely to incur large terminal costs, such as nuclear power stations, but for most assets it should be possible to implement low-cost mechanical procedures which produce satisfactory estimates.

E Paragraphs of the SNA which need revising

32. The entire annex to chapter 10 on calculating and recording costs of ownership transfer will need to be re-written and extended.

33. There are a number of places in chapter 10 where costs of ownership transfer are referred to. These are shown in the index to the1993 SNA. However, the work of the Canberra II group is such that the existing text is likely to be subject to extensive revision on a number of fronts and this will be just one which needs to be taken into account as redrafting takes place.

34. It would be useful to include text describing when other changes in assets entries would be needed because of unexpected costs of ownership transfer. This should appear somewhere in section A.8 of chapter 12.

35. There is also a reference to costs of ownership transfer in chapter 15 (para 15.90).

36. The implications for consumption of fixed capital will lead to changes in the text on this subject. Most of these appear in chapter 6, which, like chapter 10, is likely to undergo considerable modification on this topic from a number of considerations arising from the Canberra II work.

37. In addition there are references to consumption of fixed capital in chapters 1 and 2 as well as chapter 15 and 16 which will need to be examined to see if changes are appropriate.

References

Harrison, Anne, 2003: comments on John Pitzer's paper

Pitzer, John, 2003: Costs of ownership transfer

SEEA, 2003: Discussion on terminal costs (para 6.58 to 6.90)

Van der Van, Peter, 1999: Registering of ownership transfer costs.

Table displaying the characteristics of the three options considered by the Canberra II group

Feature	Option 1: All costs of ownership transfer current expenditure Common Valuation with Financial Assets	Option 2: All costs of ownership transfer capital expenditure with some changes in time of recording	Option 3: Initial costs of ownership transfer capital, subsequent current
Value of Asset on Balance Sheet	Disposal price	Initially acquisition price, declines over expected holding period to realisable price. Expected holding period can vary by owner.	Acquisition price
Treatment of Costs of Ownership Transfer	All intermediate consumption	All capitalized	1. Capitalize transaction related to capital formation (new fixed assets). 2. Expense transactions related to sales and purchases of existing assets.
Consumption of fixed capital of costs of ownership transfer	None	Actual acquisition costs plus expected disposal costs written off over expected holding period	Determined by change in acquisition price each period.
Valuation of acquisitions	Disposal price	Acquisition price	Acquisition price
Valuation of disposals	Disposal price	Realisable price	Acquisition price
Gross fixed capital formation over life of a fixed asset	Initial disposal price	Initial acquisition price plus cost of ownership transfer of all subsequent disposals	Initial acquisition price
Costs of ownership transfer identified in Capital Account	None	Amount incurred on purchase and disposal of non-produced assets	None
Costs of ownership transfer identified on Balance Sheet	None	Implicitly included in value of asset	Implicitly included in value of asset
Attribution of costs of ownership transfer on sale of existing assets	All intermediate consumption of unit involved in transaction	All capitalized by unit involved in transaction	All intermediate consumption and attributed to seller (costs of purchaser are rerouted)

Definitions:

Acquisition price = disposal price plus costs of ownership transfer of purchaser
Disposal price = amount purchaser pays directly to seller
Realisable price = disposal price less costs of ownership transfer of seller

For Official Use **STD/NAES(2004)1**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development **22-Sep-2004**

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)1
For Official Use

Cancels & replaces the same document of 06 September 2004

National Accounts and Economic Statistics

THE MEASUREMENT OF DATABASES IN THE NATIONAL ACCOUNTS - DRAFT ISSUES PAPER

This document has been prepared by Nadim AHMAD - OECD (Statistics Directorate).

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12-15 October 2004

Tour Europe, Paris La Defense
Beginning at 9.30 a.m. on the first day

For further information please contact:
Nadim Ahmad
E-mail: nadim.ahmad@oecd.org

JT00169755

English - Or. English

THE MEASUREMENT OF DATABASES IN THE NATIONAL ACCOUNTS DRAFT ISSUES PAPER

Nadim Ahmad, OECD

Executive Summary

1. The 1993 SNA discusses the treatment of databases as a special case of software as indicated in the following paragraphs.

Computer software

> 10.92 Computer software that an enterprise expects to use in production for more than one year is treated as an intangible fixed asset. Such software may be purchased on the market or produced for own use. Acquisitions of such software are therefore treated as gross fixed capital formation. Software purchased on the market is valued at purchasers' prices, while software developed in-house is valued at its estimated basic price, or at its costs of production if it is not possible to estimate the basic price.
>
> 10.93 Gross fixed capital formation in software also includes the purchase or development of large databases that the enterprise expects to use in production over a period of time of more than one year. These databases are valued in the same way as software, described above.

2. Unfortunately implementing the recommendation that the acquisition and production of large databases should be recorded as fixed capital formation has proven to be difficult. There appear to be two principal reasons for this. The first concerns the definition of a database and the second relates to the quantitative meaning of 'large' in the SNA.

Recommendations

3. On the first issue there is now broad agreement that databases are made up of two components, the supporting software and data embodied/stored in the database, and this is a position that the Canberra II Group concurs with. Concerning the second issue the Canberra II Group took the view that 'large' could not be readily interpreted either in monetary values or in terms of the physical (memory) size of the database, and as such ***recommends that references to 'large' should be removed***.

4. The Group did however consider whether databases could be categorised in a different way, such that some databases, such as those owned by statistical offices, should be excluded from investment. In fact the Group considered four specific options:

I. To treat as fixed capital all databases with an expected service life of more than year including those produced on own-account;

II. To treat as fixed capital only those databases maintained by businesses in data-providing industries;

III. Not to record the own-account production of databases as capital formation but to record the sale of databases (only when exclusive property rights are sold) in the revaluation account;

IV. To record as fixed capital only databases that are regarded by businesses as fixed capital.

5. The Group's recommendation is that ***all databases, in principle, should be recorded as fixed capital***. The Group recognised the practical difficulties inherent in this but concluded that the characteristics of, and economic benefits from, databases are similar to those of other assets, including many where estimation is also problematic.

Practical Feasibility

6. At present it would appear that few databases are currently recorded as fixed capital in the national accounts of many statistical offices. This may partly reflect a particularly demanding definition of 'large' in SNA93 but it may also reflect difficulties in estimation more generally. It is possible that better use could be made of business accounts but even here the position is mixed. Some companies with large databases treat them as assets, others do not.

7. The Canberra II Group, therefore, ***recommends*** that the SNA includes a reference describing how (second-best) macro-based estimates of own-account databases can be derived in the absence of real or better data (similar to the recommendations made for own-account software by the OECD/Eurostat Task Force); as shown below:

Own-Account database production =
*Total number of employees working on database construction/updating **
*Average remuneration **
Proportion of time spent on development of databases on own-account +
Other intermediate costs used in own-account production of databases (including data costs) +
Notional operating surplus related to own-account production of databases.

Impact on GDP

8. Although few databases seem to be captured by this name in the national accounts, some may be recorded as software, especially large own account databases with customized software and purchased databases. To the extent that this is so, the impact of dropping the qualifier "large" will have no impact on the size of GDP. To the extent that large databases are currently omitted from the national accounts, any impact of including them will not be due to the proposed change in the SNA. The impact of including smaller databases is unknown but is not expected to be significant.

Consistency with Other Manuals and Business Accounting Standards

9. No significant change is implied here and, so, no significant change is expected to consistency. There are no separate provisions for databases in international accounting standards; and so databases would be treated in line with general principles of IAS 38 (Intangible assets). IAS38 specifically mentions "customer lists", but does not mention "databases" or "content of databases". Nevertheless it seems to be widely accepted in the business accounting world that valuable databases can and should be identified as separate intangible assets. International accounting authorities did discuss the treatment of database content in business accounts back in February 2002 (in the "International Financial Reporting Interpretations Committee") but decided not to pursue the subject, and since then no further development work has taken place.

BIBLIOGRAPHY

Ahmad, N. (2003): "The Measurement of Databases in the National Accounts" Paper presented at November 2003 Canberra Group meeting, Paris.

Ahmad, N. (2004): "The Measurement of Databases in the National Accounts (Update)". Paper presented at March 2004 Canberra Group meeting, Washington.

OECD (2002): "Report of the OECD Task Force on Software Measurement in the National Accounts", OECD, October 2002.

For Official Use **STD/NAES(2004)2**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development **14-Oct-2004**

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)2
For Official Use

Cancels & replaces the same document of 06 September 2004

National Accounts and Economic Statistics

THE TREATMENT OF ORIGINALS AND COPIES IN THE NATIONAL ACCOUNTS - DRAFT ISSUES PAPER

This document has been prepared by Nadim AHMAD - OECD (Statistics Directorate)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12-15 October 2004
Tour Europe, Paris La Defense

Beginning at 9.30 a.m. on the first day

For further information please contact:
Nadim Ahmad
E-mail: nadim.ahmad@oecd.org

JT00171580

English - Or. English

THE TREATMENT OF ORIGINALS AND COPIES IN THE NATIONAL ACCOUNTS DRAFT ISSUES PAPER

Nadim Ahmad, OECD

Executive Summary

1. Originals and copies were included on the Canberra group's agenda for two reasons. The first of these was to confirm whether the position adopted by the task force on software was appropriate for other instances where originals were sold in the form of copies, such as the case with literary and artistic works. The second was because of some concerns, expressed at the 2002 OECD National Accounts Meeting, that the recommendation of the OECD/Eurostat Task Force on Software that payments for licences to use software could be recorded as investment, would lead to a double-counting of investment (both originals and copies being recorded as gross fixed capital formation). This was despite the widely held view that the recommendations made were fully consistent with the SNA on originals and copies (paras 6.1443-6.147) and with the SNA position on software (para 10.92).

2. The issue has been discussed by the Group at its last three meetings and the Group has concluded that the recommendations made by the Task Force for licenses-to-use (copies) are applicable generally and should stand but that minor modifications are needed to the recommendations made for licenses-to-reproduce, which implies a small change to the current SNA.

The SNA position on originals and copies

3. Paragraphs 6.143 to 6.146 can be summarised as:

The production of originals and copies is a two stage process. The first stage results in the production of an original and the second stage results in the production of copies. The original is an intangible fixed asset. The owner may use it directly in production or to produce copies, with both uses resulting in consumption of fixed capital of the original by the owner. The owner may also license other producers to make use of the original in production. In these cases, the owner is treated as providing services to the licensees. These services are recorded as part of the intermediate consumption of the licensees, and as consumption of fixed capital of the original in the accounts of the originator.

Proposals for Originals and Copies

4. The Canberra Group reviewed the OECD/Eurostat recommendation and considered two alternatives for the treatment of originals and copies. All three are summarised below:

- *Proposal 1:* Payments for licenses-to-use copies and licenses-to-reproduce copies should be treated as payments for part of the original.
- *Proposal 2:* Copies are the outcome of a production process in their own right, and payments for licenses to use them should be treated as investments if the conditions for investment set out in the Task Force report are satisfied. Payments for licenses-to-reproduce should be treated as intermediate consumption, as set out in SNA 6.146 (the OECD/Eurostat Task Force recommendation). The question of final consumption does not arise since the act of reproduction

is a production process. They may however be recorded as exports if the reproduction is licensed to take place abroad.

- *Proposal 3*: Payments for licenses to use and licenses to reproduce the original 'idea' should be treated as rental payments.

Recommendation

5. The Canberra Group tackled the issue in two parts; considering the issues of licences-to-use and licences-to-reproduce separately.

6. The Group concurred with the view of the OECD/Eurostat Task Force that copies are the outcome of new production. Where the copy is expected to be used repeatedly in production for more than one year, and where expenditure is above the small-tools cut-off point, expenditure should be recorded as gross fixed capital formation. This applies to all one-off purchases as well as the situation where the purchaser makes a series of payments over time, if it is the intention of the purchaser to use the copy until the end of its economic lifetime; which is usually the case. The conditions-of-sale relating to copyright and ownership, which are often attached to copies, should be interpreted, within the SNA, as conveying the ownership of (economic benefits to be derived from) the copy to the purchaser but restricting the right-to make further copies.

7. On licenses-to-reproduce, the Canberra II Group has come to a slightly different position to that of the Software Task Force. The Group has concluded that, where licenses-to-reproduce are not operational leases, the sale of the lease should be considered as the sale of all of or part of the original. This will require a slight modification of SNA 6.146. The Canberra Group is considering what should constitute an operational lease vis-à-vis the sale of a part whole of an asset in the issue regarding licenses and leases.

Impact of Proposals on the SNA

8. For Licenses-to-use, the recommendation made by the Canberra Group implies no change to the current SNA treatment of originals and copies. However it is recommended that an elaboration to the current SNA be made to remove ambiguities that arise on the issue of ownership, particularly in the context of software, following the principles set out in the OECD/Eurostat Final Report on Software that are briefly summarised below:

- Where the purchaser makes an up-front, one-off payment the owner of the copy should be considered to be the purchaser. This is in line with the treatment of households' expenditure on copies of literary and artistic originals such as books, CDs etc. If the purchaser is a business or government, the value is above the small tools limit and the copy is expected to be used repeatedly in production for a year or more then the acquisition should be considered investment. For software, this is consistent with the view that software satisfies the key characteristics of an economic asset.
- The same conclusion on the treatment of a copy acquired by a business or government holds when the payment is by means of a series of payments over time, as long as the same conditions on usage are met and it is the intention of the purchaser to use the copy repeatedly in production until end of its economic lifetime. In theory the full value of the reproduction should be recorded as fixed capital in the first year of acquisition, with annual license payments corresponding to repayment of capital and interest payments thereafter, following the usual national accounts rules for financial leases. Where this is difficult to implement it is acceptable to record the whole of each licence payment as gross fixed capital formation when it occurs.

9. For Licenses-to-reproduce however some changes will be necessary, namely to paragraph 6.146. A proposed new paragraph 6.146 is set out below with changes in italics:

> The owner may also license other producers to make use of the original in production. The latter may produce and sell copies, or use copies in other ways; for example, for film or music performances. *Two cases arise:*
>
> - *Where the license is an operational lease*, the owner is treated as providing services to the licensees that are recorded as part of their intermediate consumption. The payments made by the licenses may be described in various ways, such as fees, commissions or royalties, but however they are described they are treated as payments for services rendered to the licensee by the owner. The use of the asset is then recorded as consumption of fixed capital in the production of services by the owner. These services are valued by the fees, commissions, royalties, etc. received from the licensees.
> - *Where the licence is not an operational lease, the sale of the licence should be considered as a sale of all or part of the original. The decline in the value of the original to the owner is recorded as negative fixed capital formation and not as consumption of fixed capital. The eventual decline in the value of the licence in use will be recorded as consumption of fixed capital in the accounts of the licensee, now recorded as the owner (and user) of part of the asset.*

Background

10. At the 2001 OECD National Accounts Experts Meeting a joint OECD/Eurostat Task Force was set up to investigate the measurement of software in the national accounts. This was in response to concerns that the wide range of software capitalisation rates, as a per cent of GDP, reflected measurement differences rather than economic reality.

11. By investigating country practices and by comparing empirical evidence related to the proportion of purchased computer services that was recorded as fixed capital the Task Force confirmed that measurement was the primary cause of differences between countries, (OECD, 2002).

12. The Task Force made a series of proposals concerning software, some relating to own-account software estimation and some relating to purchased software. For the latter, the Task Force concluded that significant differences existed in the treatment of software copies, which the Task Force referred to as licenses-to-use in order to differentiate conventional packaged software from licenses-to-reproduce; which explicitly refer to payments for the right to reproduce copies of originals.

13. The recommendation of the Task Force was that the sale of licenses-to-use reflected new production of copies and that expenditure on licenses-to-use that satisfied the normal accounting rules for capitalisation should be recorded as gross fixed capital formation. However because the terms and conditions relating to software copies usually come with some stringent restrictions on legal ownership, reflecting the ability of users to make cheap copies if they so wished, the Task Force also made some recommendations on the ownership criteria that should apply for national accounts purposes. These are summarised below but are shown in detail in the Annex.

Where the purchaser makes an up-front, one-off payment the owner of the copy should be considered to be the purchaser. This is in line with the treatment of households' expenditure on copies of literary and artistic originals such as books, CDs etc. If the purchaser is a business or government, the value is above the small tools limit and the copy is expected to be used repeatedly in production for a year or more then the acquisition should be considered investment. For software, this is consistent with the view that software satisfies the key characteristics of an

economic asset. It can be used repeatedly over a long period of time, unlike services, which are consumed as they are produced. Moreover this is consistent with the way software is treated in business accounts.

The same conclusion on the treatment of a copy acquired by a business or government holds when the payment is by means of a series of payments over time, as long as the same conditions on usage are met and it is the intention of the purchaser to use the copy repeatedly in production until end of its economic lifetime. In theory the full value of the reproduction should be recorded as fixed capital in the first year of acquisition, with annual license payments corresponding to repayment of capital and interest payments thereafter, following the usual national accounts rules for financial leases. Where this is difficult to implement it is acceptable to record the whole of each licence payment as gross fixed capital formation when it occurs.

14. For licenses-to-reproduce, the Task Force recommendation was consistent with SNA 6.143 which states that: The owner may also license other producers to make use of the original in production. The latter may produce and sell copies, or use copies in other ways; for example, for film or music performances. In these cases, the owner is treated as providing services to the licensees that are recorded as part of their intermediate consumption. The payments made by the licenses may be described in various ways, such as fees, commissions or royalties, but however they are described they are treated as payments for services rendered by the owner. The use of the asset is then recorded as consumption of fixed capital in the production of services by the owner. These services are valued by the fees, commissions, royalties, etc. received from the licensees.

15. There has been little, if any, criticism that the recommendations made by the Task Force were not consistent with the SNA. However, there was some concern that the SNA had inadvertently introduced double-counting of capital formation, since both originals and copies were being captured. This concern was explicitly recognised in the Task Force Final Report; which concluded that the issue was not unique to software or other assets that could be easily reproduced but to virtually all produced fixed assets too, since many other fixed assets are produced using fixed assets.

16. The reason for the singling out of software reflected the fact that the physical costs of software reproduction were relatively small and, so, this created the perception that a uniquely different type of double-counting was being introduced. A view emerged, among a few people, that rather than treat software reproductions as being the result of a process of production, the reproductions were actually part of the original, and so, with the exception of reproduction costs, copies were not the outcome of new production.

17. The Task Force had considered this option in their deliberations but concluded that the total costs of reproduction were unlikely to be as small or insignificant as initially presumed; since costs such as advertising were likely to be significant, and, moreover, that software copies, like other copies (such as books) were the result of a production process. Moreover the Task Force took the view that the decision on whether to capitalise assets could not be dependent on the magnitude of the associated costs of production.

18. For licenses-to-reproduce, criticism of the Task Force recommendation reflected those circumstances where the payments were clearly unlike operational leases and were significant; thus amounting to a change in ownership in whole or in part., Where payments reflected the full-value of the 'original' the Task Force recommendation and the SNA also recognised a change of ownership; although this was not explicitly stated in the Task Force recommendation. So in this circumstance all views were consistent.

Proposals considered by the Canberra Group

19. The Canberra Group was invited to review this issue under the broader heading of originals and copies, since decisions made on software impacted on this broader category of production and expenditure. Three proposals were formulated:

- **Proposal 1** treated the dissemination of the original as the sale of (parts of) a fixed asset and recorded this as negative capital formation by the owner of the original. A licence-to-reproduce is regarded as passing the ownership of part of the original to the third party reproducer and the licence-to-use as a passing of ownership to the ultimate user. Both a licence-to-reproduce and a licence-to-use can be regarded by the licence holder as a fixed asset in their own right distinct from, although originally part-of, the original. Apart from reproduction costs there is no output related to copies or licences-to-produce.

- **Proposal 2** (the OECD/Eurostat Task Force recommendation) treated the dissemination of the original as further production, additional to the production of the original, in which the decline in value of the original is recorded as consumption of fixed capital. This further production may be undertaken either by the originator or a third party holding a licence-to-reproduce. The agreement incorporated in a licence-to-reproduce is regarded as an operating lease where annual payments are due and recorded as intermediate consumption. Licences-to-use that satisfy the accounting rules for capital formation should be regarded as fixed assets. The purchaser of the copy is the economic owner of the copy.

- **Proposal 3** treated dissemination as a further production activity, additional to the production of the original, always provided by the originator. The original is conceived to be an 'idea' without physical form that requires 'access devices' to allow it to be used. After the original has been produced subsequent production is of access devices to it. Dissemination takes place via operational leases whereby payments are recorded as service provision (rentals). Ownership of the original stays with the originator in perpetuity and payments to use the original 'idea' are always treated as a lease where the originator is the lessor, irrespective of whether the access devices conveying the original 'idea' are produced by the originator or by a third party. Acquisition of the means of using the original 'idea' is always partitioned into two elements, the rental of the original 'idea' and the acquisition of the access device which facilitates the dissemination in practice.

Recommendation of the Canberra Group

20. This paper does not represent the arguments for and against each of the proposals. A decision was made by the group to consider separately licenses-to-use and licenses-to-reproduce. A vote was taken at the Washington meeting (held in March 2004), and, on both issues, the vote was strongly in favour of the recommendations, which are meant to apply to all originals and copies; including literary and artistic originals.

21. On licenses-to-use, (with the exception of two participants) the Group voted strongly for and endorsed the position set out by the OECD/Eurostat Task Force that:

- **Licenses-to-use (or copies) are the result of a two-stage production process, beginning with the production of an original. The production of a copy results in output whose value should embody all reproduction costs, including the value of intellectual property tied-up in the license-to-use (copy). Where the license-to-use (copy) is expected to be used repeatedly in production for more than one year, and where expenditure is above the small-tools cut-off point, expenditure should be recorded as fixed capital formation. This applies to all one-off purchases and where the purchaser makes a**

series of payments over time, if it is the intention of the purchaser to use the copy until the end of its economic lifetime; which is usually the case. The conditions-of-sale relating to copyright and ownership, which are often attached to copies, should be interpreted as restricting the right-to make further copies and the owner of the copy, or license-to-use, is the purchaser.

22. On licenses-to-reproduce the Canberra II Group agreed unanimously to adopt the following position; which was a combination of proposals 1 and 2, and the recommendation is to amend SNA 6.146 as follows (with changes in italics):

- **The owner may also license other producers to make use of the original in production. The latter may produce and sell copies, or use copies in other ways; for example, for film or music performances.** ***Two cases arise:***

  - ***Where the license is an operational lease*****, the owner is treated as providing services to the licensees that are recorded as part of their intermediate consumption. The payments made by the licenses may be described in various ways, such as fees, commissions or royalties, but however they are described they are treated as payments for services rendered to the licensee by the owner. The use of the asset is then recorded as consumption of fixed capital in the production of services by the owner. These services are valued by the fees, commissions, royalties, etc. received from the licensees.**

  - ***Where the licence is not an operational lease, the sale of the licence should be considered as a sale of all or part of the original. The decline in the value of the original to the owner is recorded as negative fixed capital formation and not as consumption of fixed capital. The eventual decline in the value of the licence in use will be recorded as consumption of fixed capital in the accounts of the licensee, now recorded as the owner (and user) of part of the asset.***

23. The Canberra Group is considering what should constitute an operational lease vis-à-vis the sale of a part or whole of an asset in the issue regarding licenses and leases, but this does not directly affect this recommendation.

Impact on the SNA and GDP

24. Some change is required to the current SNA description of originals and copies. In fact, as set out above, the recommendations imply a change to the description of licenses-to-reproduce so that any licenses that are not operational leases can be treated as fixed capital formation. For licenses-to-use no change is necessary but it would be helpful nonetheless for the SNA to reinforce the message that copies (licenses-to-use) are the outcome of production and that their value should embody all reproduction costs, as set-out in paragraph 22 above.

25. In addition a more detailed description on when software is to be treated as fixed capital formation is needed in the SNA. The current paragraphs on software should be expanded to provide a more detailed description of when software should be recorded as fixed capital formation (following the recommendations set out in the Software Task Force Final Report as reproduced in the Annex.).

26. The impact on GDP in most countries is unlikely to be significant. Certainly for licenses-to-use, most countries already adopt practices in line with the recommendations set out by the Canberra II Group. For licenses-to-reproduce the impact is entirely dependent on the extent to which leases are not treated as operational leases, which in turn depends on the outcome of the leases and licenses issue. In any case, the impact on GDP is unlikely to be significant because both intermediate consumption of licenses-to-reproduce and (sales) output of licenses-to-reproduce will disappear, when the licenses-to-reproduce are not operational leases.

BIBLIOGRAPHY

Ahmad, N (2003): "Measuring Investment in Software", OECD, STI Working Paper DSTI/DOC(2003)6.

Ahmad, N (2002): "Accounting for Software Licenses in National Accounts", Room Document 12, Paper presented at the OECD National Accounts Meeting 2002.

Harrison, A (2004): "Originals and Copies – Summary of consequences of the three different proposals", Paper presented to the Canberra Group EDG, February 2004.

Harper, P, Lynch L: Ahmad, N (2003): "The treatment of originals and copies in the national accounts", Paper presented to the Canberra Group EDG, October 2003.

Lynch, R (2002): "Accounting for Software Licenses in National Accounts", Room Document 8, Paper presented at the OECD National Accounts Meeting 2002.

OECD (2002): "Report of the OECD Task Force on Software Measurement in the National Accounts", OECD, October 2002.

Pitzer, J.S, (2003): "The Treatment of Original and Copies in System of National Accounts 1993", Paper presented to the Canberra Group EDG, September 2003.

ANNEX

OECD/EUROSTAT TASK FORCE ON SOFTWARE: RECOMMENDATIONS ON SOFTWARE PURCHASES RELATED TO MODE OF PAYMENT

1. Simple purchase

When a copy is purchased with a single (up-front) payment. The copy provides capital services to the user for the duration of its lifetime, the user owns the copy in the normal sense of the term (the software company cannot for example repossess the copy), and so it is clear that this transaction should be recorded as a purchase of an asset if the small tools rule is satisfied and the copy is to be used repeatedly in production over time.

2. Annual payments

Two specific cases are considered:

(I) Sequence of annual payments (an initial payment followed by smaller "maintenance" updates)

These transactions should be interpreted as purchases of software copies in the first year and purchases of updates (improvements to the first version) in subsequent years. Making an initial payment for acquisition of the software, followed by a series of smaller "maintenance license" payments in subsequent years, is little different in practice from making one up-front payment for the software reproduction, and so the treatment should be, in practice, the same, that is, that all payments should be recorded as investment, as and when they occur (as long as the small tools rule is satisfied and the copy is to be used repeatedly in production over time).

(II) Sequences of regular (equal) annual payments

One particular and important type of transaction is when payments for a license-to-use are made annually in order to extend the use of the software. If the purchaser intends to use the software repeatedly in production until the end of its economic life then the treatment should follow that for a sequence of annual payments set out in *(I)* above. The full value of the software reproduction should be recoded as fixed capital formation in the first year of the acquisition of the software, with annual license payments corresponding to interest payments thereafter, following using usual national accounts rules for financial leases. Where this is not practical it is acceptable to capitalise the annual license payments as and when they occur.

3. Licenses-to-use intended for use of less than one year

Licenses *intended* for use for less than one year should be treated as intermediate consumption. At present the value of these types of licenses is not significant but this may change if software is made available

through the Internet, for example, on a "pay per use" basis. Licenses-to-use not intended for use of more than one year, do not lead to the creation of an asset, neither in the capital stock of the provider nor the user. From the outset it can be established that the software will not last for more than one year as it is the intention of the user to "destroy" it beforehand, and so under these circumstances cannot be considered an asset.

4. Rentals

Rentals should merely be viewed as one of the payment mechanisms for licenses-to-use. And, so, where there is intent to rent a reproduction for its expected economic life and where it is to be used repeatedly in production, payments should be recorded as investment.

For Official Use STD/NAES(2004)15

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development 06-Oct-2004

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)15
For Official Use

National Accounts and Economic Statistics

INTRODUCING CAPITAL SERVICES INTO THE PRODUCTION ACCOUNT

(DRAFT) DRAFT ISSUES PAPER

This paper has been prepared by Nadim AHMAD - OECD (Statistics Directorate)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12 - 15 October 2004

Tour Europe, Paris La Défense
Beginning at 9:30 a.m. on the first day

For further information please contact
Nadim Ahmad
E-mail: nadim.ahmad@oecd.org

JT00170852

English - Or. English

INTRODUCING CAPITAL SERVICES INTO THE PRODUCTION ACCOUNT

(DRAFT) DRAFT ISSUES PAPER

Executive Summary

1. In a production process, labour, capital and intermediate inputs are combined to produce one or several outputs. Capital goods that are purchased or rented by a firm are seen as carriers of capital services that constitute the actual input in the production process. In a similar way, employees can be seen as carriers of stocks of human capital and therefore repositories of labour services. However, whereas the value of labour services are fully articulated in the SNA production accounts the value of capital services are not. Consumption of fixed capital (CFC) is shown in the accounts but the full benefits of using fixed capital (the user costs or value of capital services) is comprised of other components too, including the return on fixed capital. The Canberra II group has been the investigating the changes needed to the accounts to address this issue and, in conjunction with this, the methodological issues concerning the measurement of CFC and capital services.

Recommendation

2. Although the Group has not yet resolved some methodological issues, including the appropriate measure of CFC that should be used in the accounts, these outstanding issues do not impact on the estimation of the value of capital services, since, although related concepts, they are not dependent on each other. A complete methodological description of how the costs of capital services can be estimated is included in OECD (2001a) and (2001b), and is not included in this paper.

3. The Group has investigated most asset groups and has concluded that, for land, fixed assets, natural and sub-soils assets and inventories, ***the SNA should recognise the principle that the value of capital services, in current and constant prices, is recorded in the accounts***.

4. In recognition of the relationship between estimates of CFC and capital services, the Group's second recommendation is that these estimates should be consistent. In other words the implicit or explicit ***age-efficiency profiles, age-price profiles and rates of return used in estimating CFC should be consistent with those used in estimating the value of capital services.***

5. The third recommendation relates to the presentation of this information in the accounts. In this regard ***the Group recommends that the value of capital services from fixed assets, inventories, land and natural assets, (in current and constant prices) should be shown as 'of which' items under value-added in the production account, for each institutional sector***.

6. ***For constant price estimates, the Group recommends that an 'of which' item is also shown for the contribution of labour.*** (For simplicity the Table below describes the recommendation for all sectors in constant prices). At present the recommendation refers to compensation of employees only but this will be extended if the Group can agree on how to decompose labour costs within mixed-income.

7. The Group did consider extending this presentation into the generation of income accounts but thought this unnecessary. It's important to note that the Group's recommendations in this regard, imply no radical changes to the presentation of the accounts or to the general meaning given to any of its aggregates; such as net operating surplus. However the Group did recommend ***that the SNA encourage countries to record the full value of capital services in supply-use tables***

Table. **Account I: Production account (in Constant Prices)**

Current SNA	
Uses	Resources
P.2 Intermediate consumption	P.1 Output
B.1g *Value added, gross*	
K.1 consumption of fixed	
B.1n *Value added, net*	

Proposal	
Uses	Resources
P.2 Intermediate consumption	P.1
B.1g *Value added, gross*	
Of which: *Capital services from fixed capital.* *Capital services from natural assets, including depletion.* *Capital services from inventories.* *Capital services from land used in production.* *Compensation of Employees*	
K.1 consumption of fixed capital	
B.1n *Value added, net*	

Outstanding and Related Issues

8. Other issues related to the measurement of capital services but not affecting the recommendations made here have been considered by the Group, see Diewert, Harrison and Schreyer, (2004). The issues are:

- Determining the correct rate of return to use (endogenous or exogenous rates). The Group's view is that both endogenous and exogenous rates are acceptable but further work on this issue is planned.
- Defining consumption of fixed capital and obsolescence. The group has concluded that SNA depreciation, which corresponds to cross-section depreciation in most cases, is the appropriate measure of consumption of fixed capital for the national accounts, see also Ahmad, Aspden and Schreyer, (2004).
- Investigating whether gross mixed income can be decomposed into its labour and capital components; although, if this occurs, the components will only be shown as memorandum items.
- R&D capitalisation. The group is still considering whether R&D should be included as investment. If so estimates of the costs of R&D capital services will also be needed.

Impact on GDP

9. For market operations no change to GDP will occur. However, for non-market operations, where output is commonly calculated as the sum-of-inputs, the inclusion of all capital services received by government will raise GDP by the difference between total capital services and consumption of fixed capital.

Consistency with Other Manuals and Business Accounting Standards

10. Because the recommendation is to include capital services as an *'of which'* item only, the recommendation is not expected to affect the current consistency between the SNA and other manuals and business accounting standards.

Practical Feasibility

11. The feasibility of the recommendations are partly determined by the methods currently used to estimate CFC used. For example, a number of countries currently estimate CFC using a depreciation function with no explicit reference to age-efficiency functions or rates of return, and, so, in this sense, extra information would be required. However, the estimation of these components is unlikely to be onerous.

Background

12. In 2001 the OECD published a manual on measuring capital (OECD 2001a) describing best practice for measuring capital stocks, consumption of fixed capital and capital services and the relationships between these concepts. The manual took the measurement of capital a long way forward but acknowledged that further research areas remained (Annex 4 of the manual). This issues paper concerns one of those areas: capital inputs in the production account, and describes the recommendations made by the Canberra II Group in this context, see also Ahmad (2001). The Group did consider the consequential impact/s on the distribution and use of income account but concluded that changes here were not necessary.

13. The proposals made by the Group to date are deliberately prudent. They imply no radical changes to the presentation of the accounts or to the general meaning given to any of its aggregates; such as net operating surplus. This prudence reflects the fact that the development and understanding of statistics in this area is still relatively new; and the fact that the valuation of concepts, such as capital services, are, to some extent, dependent on assumptions about the way the economy works. Generally the introduction of capital services into the accounts does not change the value of the aggregates as they enter as 'of which' items. One specific item may change GDP estimates however; the introduction of the costs of capital services for public assets (see Harrison 2004).

Why Record Capital Inputs?

14. The present SNA production account contains a presentational anomaly in its treatment of fixed assets. Consumption of fixed capital (CFC) is sometimes thought of as reflecting the full benefits of using fixed assets but the full benefits of using fixed capital (the user costs or value of capital services) is comprised of other components too, including the return on fixed capital. At present the accounts do not explicitly identify these components as they are subsumed within operating surplus.

15. If all fixed assets were leased on the market, rental values would be directly observable and this data could be used to estimate the cost of capital services. In practice, of course, many fixed assets are owned by their users and so imputations are needed to estimate the costs of capital services.

16. The idea that the production account does not explicitly identify the total values of capital services from fixed assets but instead records them within value-added or operating surplus is not new. The impetus to separately identify these capital services now, largely reflects the increased interest in growth accounting and productivity analysis (OECD (2001b), Harper et al (2003)). The recommendation made by the Canberra Group is to correct this presentational anomaly for fixed assets and to extend the rationale to other assets, namely inventories, land, and natural and sub-soil assets.

17. The expected (pure) gross operating surplus (net of mixed income associated with labour) of an enterprise is commonly understood to represent the benefit of using all of its owned fixed assets and rent, or own-use, of non-produced assets[1], and can be described as the value of capital services rendered by

[1] Gross operating surplus is often, mistakenly, considered as being equal to the benefits to the owner of assets. However this view is not entirely correct. If a fixed asset is leased or used by its owner, economic rent, (capital

these assets, or the economic rent of the assets. The actual observed gross operating surplus reflects the value of these capital services plus an additional item that represents the *(ex post)* unexpected profit/loss actually recorded by an enterprise.

18. Capital, in its broadest sense covers any expenditure that requires foregoing something in the present to earn something in the future. Therefore, capital services are in theory rendered by all types of capital; produced (including inventories) and non-produced (including, subsoil assets, land, patents) as well as services from R&D, knowledge etc and, so, if the full value of capital services from fixed capital is to be explicitly recorded, one might consider, by extension, whether other capital services from other assets should be explicitly identified too.

19. The role of financial capital within the production account is not clear. It is generally accepted that financial capital plays no (productive) role although some of the literature on this subject (Keuning 1998) make a case for its inclusion. Financial assets are quite often essential for companies to function (e.g. Insurance companies) but it is difficult to identify the links within a production framework between financial decisions and production decisions, (Miller and Modigliani 1966). This subject is beyond the scope of the Canberra Group's current remit, and, as such, financial capital is not considered here but is recognised as a separate research area in the OECD Capital Manual. In addition, because the SNA does not currently treat them as assets, R&D, which is currently being considered by the Canberra Group, and knowledge are also not considered in this paper. The paper continues by reviewing the recommendations made by the Canberra Group for each assert type in turn.

Fixed Assets

It can be shown that consumption of fixed capital is but one component of the value of capital services. The value-of capital services of an asset aged k at time t can be shown to be equal to:

$P_t^k - P_{t+1}^{k+1} + r_t P_t^k$; where P_t^k is the price of an asset aged k at time t and r_t is the nominal rate of interest at time t, see Diewert (2001).

$P_t^k - P_{t+1}^{k+1}$ is the change in the vale of an asset between two periods. It reflects two effects: the change in value due to ageing and the change in the market price of the asset for a given age. Whether the entire expression or only the part that relates to ageing is consumption of fixed capital is of secondary importance but is discussed further in Ahmad, Aspden, Schreyer (2004).

In order to record the full costs of capital in the production accounts therefore, the Canberra Group, had recommended that an addition is made to the production accounts to show the costs of capital services, in current and constant prices, as an '*of which*' item under value-added, as shown in Table 1 below.

---

services), is included in the gross operating surplus of the owner. In the case of non-produced assets however such as land and subsoil assets, the economic rent appears in the operating surplus of the user of the resource and the transfer of this element to the owner takes place as the rent element of property income. For financial assets, there is no explicit element of operating surplus that can be identified as capital services of these assets (because in the accounts we do not regard them as being "used" in production) but operating surplus still has to be large enough to cover the cost of borrowing financial capital and this charge against the gross operating surplus is shown as property income.

Non-Produced Non-Financial Assets

Land

20. The economic case for treating land used in production symmetrically with fixed assets is sound, as land provides also provides capital services.

21. The treatment of land in the 1993 SNA is however different to that for fixed assets. As it is (normally, see below) a non-produced asset, rent from land is not recorded as intermediate consumption but as property income; which is not recorded within the operating surplus of the recipient of the income. As such the 1993 SNA introduces asymmetries with regards to the recording of the capital services associated with land; it is the user who receives the capital services from land, not the owner, because there is no such thing as output, or production, of rent.

22. For non-produced land, when the user of the land is also the owner (owner-user) for a given value of output in competitive markets, the operating surplus would implicitly include a component that reflected the capital services from the land. Where the user is not the owner the capital services provided are equal to the resource rent. This will not necessarily be equal to property income (rent, excluding administration costs) paid to use the land since rent is often agreed in advance of unknown conditions, such as the weather, that determine resource rent.

23. The gross operating surpluses of the owner-user and user are therefore (all other things being equal) identical, which is illogical from an economics perspective; since one has ownership of a productive agent (land) and the other does not. This does not of course mean that the balance of primary incomes should be preferred to gross operating surplus, since property income includes other types of assets (and not just land); irrespective of whether these assets play a recognised role in production or not.

24. In theory, therefore, if is it possible to separately identify property income from land, it should be possible to record the capital services from land used in production for users paying rent (and owner-users) In these cases capital services could be estimated as the actual rent payments (net of administrative costs). Therefore the Group has recommended that the SNA shows the value of capital services from land used in production in the production accounts; see Table 1.

25. In a previous Canberra Group meeting the Group recognised that land could also be produced. This has consequences for the measurement of capital services as, when produced land is rented, payments will be recorded as rentals (and not rent), so the value of capital services will be recorded in the production account of the owner (as opposed to the user in the case of non-produced land).

Subsoil and other natural assets

26. The SNA (paragraphs 13.59 and 13.61 and paragraphs 7.203-205 of Integrated Environmental and Economic Accounting (IEEA) 2003) recommend that the value of subsoil and other natural assets are valued by their net present value. Paragraph 7.168 (and Figure 7.1) of the IEEA further states that depletion is the counterpart for non-produced natural assets to CFC for produced assets, and so, in principle, the conclusions that were drawn for capital services for fixed assets apply to subsoil and other natural assets. The only difference between fixed assets and natural/subsoil assets, in this context, is that whereas CFC is already identified in the production accounts, depletion is not.

27. Therefore the Group has recommended that the value of capital services from natural and sub-soil assets be shown in the accounts (see Table 1).

Valuables

28. The arguments for valuables follow those of land not used in production and financial assets, and the Group has recommended that no capital services from valuables are shown in the accounts.

Inventories

29. The rationale for recognising capital services from inventories is based on the idea that the inventory holder provides security of supply or the ability to provide goods at a later date. In this way one can visualise the service provided as being analogous to transport services, except that, where transport services move a product from one location to another, inventories provide a service that moves a product from one point in time to another. On this basis the Group's recommendation is that the capital services from all inventories should be identified separately in the accounts.

30. The Group considered whether inventories of goods for sale should be treated differently to inventories of inputs, but concluded that the recommendations should apply to all inventories on the grounds that both types were necessary for businesses to function efficiently. However some practical issues remain to be resolved such as how to choose the life length of the stock.

Public Assets

31. The Group has agreed that the introduction of the costs of capital services should be treated consistently for all sectors, market and non-market. In this sense it follows that the recommendations made concerning fixed assets, land and inventories apply equally to government and non-market output. This includes public monuments. Where value-added is estimated using input-costs the inclusion of the cost of capital services in the production accounts will increase (non-market) gross value-added and GDP.

Outstanding and Related Issues

32. Other issues related to the measurement of capital services but not affecting the recommendations made below have also been considered by the Group, see Diewert, Harrison and Schreyer, (2004). The issues are:

- Determining the correct rate of return to use (endogenous or exogenous rates). The Group's view is that both endogenous and exogenous rates are acceptable but further work on this issue is planned.
- Defining consumption of fixed capital and obsolescence. The group has concluded that SNA depreciation, which corresponds to cross-section depreciation in most cases, is the appropriate measure of consumption of fixed capital for the national accounts, see also Ahmad, Aspden and Schreyer, (2004).
- Investigating whether gross mixed income can be decomposed into its labour and capital components; although, if this occurs, the components will only be shown as memorandum items.
- R&D capitalisation. The group is still considering whether R&D should be included as investment. If so estimates of the costs of R&D capital services will also be needed.

Summary of Recommendations

33. The Canberra II Group has recommended that the capital services from land, fixed assets, natural and sub-soil assets and inventories are explicitly included as '*of which*' items under the value-added of each institutional sector in the production account, in both constant and current prices. In conjunction with

this the Group has also recommended that constant price estimates of compensation of employees should also be recorded as an '*of which*' item.

34. Table 1, below, illustrates this recommendation. For simplicity, the table is not broken down by institutional sector. Equally, only the constant price presentation is shown below (the current price presentation is identical except compensation of employees are not shown as an 'of which' item).

35. In recognition of the relationship between CFC and capital services, the Group has further recommended that, these estimates (CFC and the value of capital services) should not be introduced in an isolated manner. In other words, the explicit or implicit age-efficiency profiles, age-price profiles and rates of return used to estimate CFC and any other capital related data that services both the analysis of income and wealth (via NDP on the balance sheets) and the analysis of production and productivity (via prices and quantity of capital services) should be consistent with those used to estimate the value of capital services

Table 1. **Account I: Production account in constant prices**

Current SNA

Uses	Resources
P.2 Intermediate consumption	P.1 Output
B.1g *Value added, gross*	
K.1 consumption of fixed	
B.1n *Value added, net*	

Proposal

Uses	Resources
P.2 Intermediate consumption	P.1
B.1g *Value added, gross*	
Of which: *Capital services from fixed capital.* *Capital services from natural assets, including depletion.* *Capital services from inventories.* *Capital services from land used in production.* *Compensation of Employees*	
K.1 consumption of fixed capital	
B.1n *Value added, net*	

REFERENCES

AHMAD, N (2004): "Introducing Capital Services into the Production Account - Update". Paper presented to the meeting of the Canberra Group in Washington, March 2004.

AHMAD, N. ASPDEN, C. SCHREYER, P. (2004). "Depreciation and Obsolescence". Paper presented to the meeting of the Canberra Group in London, September 2004.

DIEWERT, E.W. (2001). "Measuring the Price and Quantity of Capital Services under Alternative Assumptions"; *Department of Economics Working Paper No 01-24*, University of British Columbia.

DIEWERT, E.W., HARRISON, A. SCHREYER, P. (2004). "Cost of Capital Services in the Production account". Paper presented to the meeting of the Canberra Group in London, September 2004

HARRISON, A. (2004). "Government Owned Assets – Continued". Paper presented to the meeting of the Canberra Group in Washington, March 2004.

KEUNING S. (1996). "The Role of Financial Capital in Production".

MILLER, M.H. and MODIGLIANI, F. (1996). "Some Estimates of the Cost of Capital to the Electric Utility Industry, 1954-1957."*American Economic Review* 56"pp. 333-391.

MULLER, D.C. (1986) "Profits in the Long Run.". Cambridge University Press.

OECD (2001a); Measuring Capital – OECD Manual. Measurement of Capital Stocks, Consumption of Fixed Capital and Capital Services, Paris.

OECD (2001b); Measuring Productivity - OECD Manual. Measurement of Aggregate and Industry-Level Productivity Growth, Paris.

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

07-Oct-2004

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)16
For Official Use

National Accounts and Economic Statistics

ISSUES PAPER: MEASURING THE CONTRIBUTION OF NON-FINANCIAL ASSETS TO NON-MARKET PRODUCTION

This paper has been prepared by Anne HARRISON - OECD

WORKING PARTY ON NATIONAL ACCOUNT

To be held on 12 - 15 October 2004
Tour Europe, Paris La Defense

Beginning at 9:30 a.m. on the first day

For further information please contact:
Anne Harrison
E-mail: anne.harrison@oecd.org

JT00171032

English - Or. English

ISSUES PAPER: MEASURING THE CONTRIBUTION OF NON-FINANCIAL ASSETS TO NON-MARKET PRODUCTION

Executive summary

1. The 1993 SNA states that by convention there is zero net operating surplus for non-market producers which implies there is no return to capital on their assets. During the development of the 1993 SNA it was proposed to change this and the proposal has recurred now in the light of work to integrate the capital services approach to the contribution of non-financial assets to production.

2. The Canberra II Group have considered the issue and propose the following changes to the SNA:

   a. A return to capital should be estimated for assets of non-market producers (principally but not exclusively those owned by government) whether they are

      i. of the type used by employees in the course of their work (e.g. computers, vehicles).

      ii. those which provide a service to the economy at large (e.g. roads),

      iii. those which provide a service to the community at large (e.g. recreational facilities such as a city park);

   b. This return to capital should reflect the value of the asset; if the asset has an elevated value because it is rich in historical or cultural associations, the return to the asset will reflect this higher value;

   c. The capital services corresponding to these returns to capital should be used instead of consumption of fixed capital in calculating the value of output of non-market producers when this is estimated as the sum of costs incurred; and

   d. The definition of an asset needs to be clarified to ensure that assets which provide benefits to the economy or community as a whole and not just to the owner of an asset are included.

3. All of these are significant changes to the SNA, and they will lead to a significant increase in both GDP and NDP. The consequence is that interpretation of the contribution of non-financial assets to production and the decline in their value caused by their use in production will be more soundly based on economic theory and normal accounting conventions. All the proposed changes have been approved by a large majority of the members of the Canberra II group.

4. Does the AEG agree with these proposals?

Background and reasons for change

5. Since the publication of the 1993 SNA, much more consideration has been given to the incorporation of the theory of capital services into the SNA. For assets used by market producers, this allows an identification of the capital services rendered with [part of] gross operating surplus and of the

return to capital with [part of] net operating surplus. This is consistent with the stated position of the SNA that the value of an asset is, in theory, equal to the net present value of the future income streams coming from it where the stream of income from the use of the asset can be equated to the stream of capital services the asset provides. This approach also allows a value of the asset at any point in time to be estimated and the value of the consumption of fixed capital to be calculated as the change in the value of the asset between the start and end of the accounting period, excluding the change of value due to changes in prices.

6. When these principles are applied to assets owned and used in non-market production, the convention in the 1993 SNA that the net operating surplus for non-market production is exactly zero means that the rate of return for these assets is zero, or in other words, that non-market producers have a social rate of discount of zero. Because this means discounting is not applied in calculating the net present value of such an asset, its value is the simple sum of the capital services remaining. While this position is tenable from some points of view it produces anomalies in the values to be ascribed to assets which are otherwise similar but where one is used by a market producer and one by a non-market producer.

7. Consider two assets, identical in all respects except that one is owned and used in the course of non-market production and one is owned and used in the course of market production. If one is subject to discounting and the other not, then the two assets have different values in the periods after their initial purchase, even though the second hand value of each must be equal. This equality can be achieved by placing a different value on the capital services rendered by the asset of the non-market producer to those rendered by the market producer's asset, though the technical characteristics are identical. This anomaly is avoided if both assets are assumed to produce the same rate of return as that owned and used by a market producer.

8. This assumption amounts to saying the cost of capital is the same for both producers. The proposition that this should be the case was considered in the course of the revision leading up to the 1993 SNA and until the very last stages it was proposed to include a return to capital on government assets in that version of the SNA. The consequences arising from the greater application of capital service theory therefore simply reinforce the case made during the revision process prior to 1993.

Recommendations for change

9. The Canberra II Group reviewed the issue and considered three groups of public assets, (i) those such as buildings, computers and vehicles which are used by civil servants in the course of their work, (ii) assets such as roads which contribute to increased productivity of other industries , and (iii) assets such as city parks which have no consequences for productivity in any other industry..

10. The Group considered that assets falling into all these classes should be deemed to provide capital services and that estimates of these services should be used in place of consumption of fixed capital in the measurement of output of non-market production when it is estimated at the sum of costs incurred. However, the group noted that the first priority was to include capital services for those assets used by employees of a non-market producer in the normal course of their work. A second priority would be to extend this to assets providing benefits throughout the economy generally, such as roads. It may be difficult to place a value of the third type of assets, such as city parks and historical monuments, and incorporating capital services for these should be seen not only as a lower priority but also possibly infeasible in practice. If it has been possible to calculate consumption of fixed capital for these assets, there would be little difficulty to changing this to an estimate of capital services , but in some cases where there are no estimates of the value of these assets, neither may be possible.

11. If an asset, for example a building, has the same functionality as another building but a higher value because of historical or cultural associations, then the value of net operating surplus will reflect this increased value. This is consistent with the proposition that historical monuments are included in the category of produced assets.

12. The Group also noted that a clarification to the definition of an asset is needed in respect of assets in the second and third group since the benefits accrue not just to the owner of the asset but to the economy and population at large.

Implications of the changes for the System

13. Including an estimate of capital services instead of consumption of fixed capital will increase the value of output, gross and net value added for non-market production. The net value added of non-market production will no longer be zero but will be equal to the value of capital services less consumption of fixed capital[1].

14. In order to give some indication of the impact of the proposed changes on GDP approximate estimates have been derived for the United States and Australia[2]. In 2002 the increase in the level of GDP is estimated to be approximately 1.8% for the US and for 1.5% for Australia. Given that the capital stock of general government tends to change at a modest rate from year to year then if the real rate of return does not change very much over time either, the impact on the level of GDP would not change quickly. Thus given the relatively small magnitude of the change to the level of GDP, it is unlikely that the proposed changes would have a significant impact on GDP growth rates.

15. The actual rate of return to be used in the calculation will be addressed in another Canberra II issue paper. The correct derivation of the price index for capital services is also still under discussion in the Group.

16. The changes proposed affect the value to be estimated for gross operating surplus for non-market producers. The consequences for the subsequent balancing items in the accounts follow automatically. No changes to the nature of transactions

Other issues

17. These recommendations ensure that assets owned and used in non-market production are valued in the same way as assets owned and used in market production. It is a change to the 1993 SNA but one

---

[1] Non-market producers may also have some net operating surplus arising from a market establishment or from the rent accruing on non-produced assets.

[2] The chain volume estimate (reference year 2000) of general government fixed assets in the US totalled $4 440.3 billion at the end of 2001. Assuming a real rate of return of 4% implies a real return to capital of $177.6 billion in 2002. At current prices this is $184.1 billion or 1.8% of GDP ($10 987.9 billion). Calculated this way the level of GDP is increased by either 1.7% or 1.8% in each year from 1992 to 2002. In the case of Australia, the chain volume estimate (reference year 2001-02) of government fixed assets at 30 June 2001 totalled A$ 273.2 billion. Assuming a real rate of return of 4% implies a real return to capital of A$105.3 billion in 2001-02. At current prices it (the same value, A$105.3 billion) is 1.5% of GDP (A$714.4 billion) in 2001-02.

Two points are worth noting. First, the value of general government inventories should also be included in the calculation, so the impact on GDP would be a little higher than indicated here. Second, the US estimates of fixed assets include all military assets, including weapon systems, whereas the capital stock estimates for Australia exclude weapons systems.

which makes for greater internal consistency in the valuation of assets and recognition of their role in production.

18. There are implications for the OECD manuals on the measurement of capital stock and the measurement of productivity as well as for the GFSM.

19. When balance sheet estimates exist for the value of the stock of public assets, there will be no feasibility problems in the case of implementing this proposal for assets used by non-market producers as a part of their own production process. When such estimates do not exist, there is already a feasibility problem in respect of estimating values of consumption of fixed capital for these estimates. For assets providing services to the public at large, such as roads, there should be few problems of implementation. For assets with historical and cultural associations and those providing recreational facilities, valuation of the stock of the asset and its associated capital services may take some time to establish initially, but valuation of such assets is required to complete the balance sheets so this proposal represents very little of an extra burden of compilation.

Paragraphs of the SNA which need revising

20. There are three distinct topics where this recommendation has implications for the text of the SNA. The first concerns the measurement of output of non-market producers in chapters 2, 3, 4, 6 and 15. The second concerns the valuation of assets in chapters 10 and 13. The third topic is the calculation of the consumption of fixed capital and affects chapters 6 and 10.

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

07-Oct-2004

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)17
For Official Use

National Accounts and Economic Statistics

DRAFT ISSUES PAPER: MINERAL EXPLORATION AND MINERAL DEPOSITS

This paper has been prepared by Anne HARRISON - OECD

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12 - 15 October 2004
Tour Europe, Paris La Defense

Beginning at 9:30 a.m. on the first day

For further information please contact:
Anne Harrison
E-mail: anne.harrison@oecd.org

JT00171035

English - Or. English

DRAFT ISSUES PAPER: MINERAL EXPLORATION AND MINERAL DEPOSITS

A. Executive summary

1. The 1993 SNA introduced the concept of mineral exploration as a new category of produced assets with consequences for the treatment of the sub-soil deposits which were the subject of this exploration. Since then the discussions of the London Group on environmental accounting, in preparing the SEEA 2003, have elaborated several of the implications in greater depth than appears in the 1993 SNA. The Canberra II Group has confirmed the position taken in the SEEA and makes the following recommendations for the 1993 SNA Rev1.

i. The produced asset "mineral exploration" should be described as "mineral exploration and evaluation" and the coverage should be described using the criteria of the International Accounting Standards Board (IASB).

ii. The assets for mineral exploration and evaluation and for subsoil deposits should continue to be recorded as separate assets, the first a produced asset and the second non-produced.

iii. The description of the valuation of mineral exploration should be clarified to ensure that actual market costs are used when specialised enterprises provide inputs to the activity.

iv. The valuation of subsoil resources should be based on the current market value, which is practice may be estimated by the net present value of the resource rent of the resource. The resource rent is that part of gross operating surplus unattributable to other identified assets, specifically fixed assets including mineral exploration and evaluation.

v. Payment by the extractor to the owner of the resource should be recorded as property income (rent) regardless of the label given to the payments.

2. These recommendations represent a clarification of the SNA and not fundamental change. They are the result of discussions among the London Group and the Canberra II Group and are consistent with proposals in the SEEA 2003. The recommendations have proved feasible in practice in countries having significant mineral deposits.

3. There is a further issue for decision, which is how the value of the resource should be attributed in the balance sheets of the extractor and/or the owner. A recommendation on this will be made in the context of the recommendation on leases and licences.

B. Background and reasons for change

4. The 1993 SNA introduced the category of "mineral exploration" as a new form of produced intangible fixed asset (AN.1121). Further, there was explicit recognition of subsoil assets (AN.212) as a category of tangible non-produced assets. Since the publication of the 1993 SNA, a number of questions have been raised:

i. How far does it make economic sense to keep the discovery activity separate from the value of the resource?

ii. How should the exploration activity be measured?

iii. How should the deposit be valued and how should double counting be avoided?

iv. How are payments to the legal owner to be recorded in the SNA?

v. In the balance sheet of which unit should the resource be recorded, the legal owner or the exploiter?

5. These questions were discussed at length in the preparation of the SEEA 2003 and more extensive guidance was included in that manual than appears in the SNA. In addition, the international accounting community has an exposure draft out for discussion with a view to promulgating a new international accounting standard on the subject from 1 January 2005.

6. A written consultation of the members of the Canberra II Group, confirmed at the March 2004 meeting, suggested that there is no need for substantive change in the SNA but that more extensive guidance should be given to avoid the ambiguities which have arisen since the publication of the 1993 SNA. These changes should be consistent with, but somewhat more prescriptive than, the SEEA 2003.

C. Recommendations for change

Terminology and coverage for mineral exploration[1]

7. The IASB uses the expression "mineral exploration and evaluation". It specifies[2] that the following expenditures may be included in the initial measurement of exploration and evaluation assets:

i. acquisition of rights to explore;

ii. topographical, geological, geochemical and geophysical studies;

iii. exploratory drilling;

iv. trenching;

v. sampling; and

vi. activities in relation to evaluating technical feasibility and commercial viability of extracting a mineral resource.

8. This coverage is clearly substantially the same as the SNA coverage given by example in paragraph 10.91; "the expenditures include not only the costs of actual test drillings and borings, but also the costs incurred to make it possible to carry out tests, for example, the costs of aerial or other surveys, transportation costs, etc." Further, since information compiled according to the IASB recommendations is likely to form source material for statisticians, and because it is desirable to avoid giving the impression

[1] This specific suggestion arises from consideration of the IASB position and has not previously been discussed by the group.

[2] IASB, exposure draft ED6, Exploration for and evaluation of Mineral Resources, January 2004. Para 7 page 13.

that the SNA coverage is narrower, it would seem desirable to adopt the longer and more precise terminology used by the IASB.

One asset or two

9. One suggestion which has been floated since 1993 is that instead of keeping the discovery of the asset separate from the deposit itself, they should be combined and a new "developed natural asset" recorded instead. This would be treated as a produced asset so that, in effect, the value of the deposit became included in the total of produced assets and excluded from the total of non-produced assets. This proposal received support from only a very few members of the Canberra II Group and so the recommendation of the Group is to keep the assets separate as in the 1993 SNA.

Valuation of the exploration and expenditure activity

10. The 1993 SNA in paragraph 10.91, as quoted above, spells out some of the costs which are to be included in the value of the asset of mineral exploration and specifically includes the consumption of fixed capital on the assets used in exploration. This has led a number of users to assume that this activity is always to be treated as a non-market activity with no associated net operating surplus.

11. The conclusion of the London group in discussing what should appear in the SEEA, was that this interpretation came from inexact phrasing in the 1993 SNA. When exploration is carried out on own account, this is indeed how it would have been valued. (In accordance with other recommendations of the Canberra II Group, in future even own account production should include an estimate of the return to the fixed capital being used.) However, when the activity is undertaken by a separate enterprise the full amount charged by this enterprise, including their net operating surplus, should be included in the value of mineral exploration and evaluation.

Valuation of the mineral deposit

12. Paragraph 13.60 of the SNA describes a number of alternative ways of valuing mineral deposits. One is via the present value of the net returns from commercial exploitation, one is via market prices and one is by using the owner's own valuation. Each of these are subject to uncertainty.

13. Even if mineral exploration and evaluation as a produced asset and mineral deposits as a non-produced asset are not merged into a single asset, it is clear that the value of the two is intimately linked. The total revenue from extracting a given amount of oil, say, may be the same for equal amounts of the same quality of oil but the "profitability" to the extractor depends on the difficulty of extraction and the amount of the initial profits which are necessary to cover the previous exploration and evaluation. Just as the value of a produced asset is assumed conceptually to be equal to the net present value of the capital services it renders, so the value of a natural resource should be set equal to the net present value of the resource rent it earns over time. The resource rent is that part of gross operating surplus not accounted for by the return to the fixed assets used by the exploiter, including mineral exploration and evaluation in this set of assets. This means that the greater the value of fixed assets needed to extract the oil and the greater the expenditure on discovery of the oil reserve in the first place, the lower will be the resource rent of the deposit and vice versa. When a mineral cannot be extracted profitably (without a government subsidy) it has no economic value because the resource rent is zero.

14. The SEEA 2003 recommends this way of estimating the value of mineral deposits. Further it notes that when, exceptionally, there may be alternative estimates of the mineral deposit, there may be a problem of consistency; the value of the exploration asset and the deposit may not exactly match the net present value of the earnings from the combined set of assets, but may be either higher or lower. Resolution of this possibility is discussed below.

Payments to the owner

15. The 1993 SNA makes it clear that payments made by the exploiter to the legal owner of the mineral deposit are to be treated as property income. The description of this treatment is given in para 7.133.

> The owners of the assets, whether private or government units, may grant leases to other institutional units permitting them to extract such deposits over a specified period of time in return for the payment of rents. These payments are often described as royalties, but they are essentially rents that accrue to owners of the assets in return for putting them at the disposal of other institutional units for specified periods of time and are treated as such in the System. The rents may take the form of periodic payments of fixed amounts, irrespective of the rate of extraction or, more likely, they may be a function of the quantity or volume of the asset extracted. Enterprises engaged in exploration may make payments to the owners of surface land in exchange for the right to make test drillings or investigate by other means the existence and location of subsoil assets. Such payments are also to be treated as rents even though no extraction may take place.

16. Sometimes, when the owner of the resource is the government, the payments may be described as taxes even though they are still effectively appropriation of part of the resource rent.

17. There is no necessity that the payments to the legal owner of the resource should be equal to the total resource rent as described above, either on a year by year basis or even over time. It is often the case that the legal owner will allow the extractor to retain some of the resource rent. Alternatively the payments may have been agreed some time in the past and not always reflect current circumstances on the commodity price of the mineral concerned. For this reason, if estimates of the value of the resource to the legal owner are based on the revenues the owner receives from the extractor, an apparent value of the resource will be derived which differs from the resource rent derived as described above via the net present value of the residual element of gross operating surplus of the extractor. The use of the latter method to value the deposit should be preferred to methods depending on payments to the legal owner.

D. Other issues

18. The recommendations submitted here are the result of discussions within the London Group on environmental accounting and the Canberra II Group on non-financial assets. They represent the view of a clear majority of both groups.

19. The recommendations represent a single conceptual solution. These are more restrictive than the solutions suggested in the SEEA 2003 where alternatives are suggested for the calculation of the value of the resource and the attribution of the value of the resource in balance sheets.

20. It has been found feasible in practice to implement these proposals. The proposals only need to be implemented in countries having, or supposed to have, significant mineral deposits.

E. Paragraphs of the SNA which need revising

21. There is reference to the borderline between intermediate consumption and capital expenditure in the case on mineral exploration in chapter 6 (para 6.166)

22. Paragraph 7.133 and other references to rent on sub-soil resources will need amending.

23. There is discussion of the coverage and valuation of both mineral exploration and sub-soil resources throughout chapter 10. There will need to be new text discussing the concept of resource rent as a parallel to economic rent on produced assets.

24. There are references to these assets in chapter 13 (paras 59 and 60) as well as in the annex giving definitions of all SNA assets.

25. In all these cases the text of the SEEA (paragraphs 8.46 to 8.65) provides a useful starting position.

For Official Use

STD/NAES(2004)3

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

22-Sep-2004

English - Or. English

STATISTICS DIRECTORATE

Cancels & replaces the same document of 06 September 2004

National Accounts and Economic Statistics

ISSUE PAPER: THE TREATMENT OF LAND IMPROVEMENTS

This document has been prepared by Charles ASPDEN - OECD (Statistics Directorate)

WORING PARTY ON NATIONAL ACCOUNTS

To be held on 12-15 October 2004
Tour Europe, Paris La Defense

Beginning at 9:30 a.m. on the first day

For further information please contact:
Charles Aspden
E-mail: charles.aspden@oecd.org

JT00169757

ISSUE PAPER: THE TREATMENT OF LAND IMPROVEMENTS

A. Executive summary

1. At the October 2003 meeting of the Canberra II Group on the Measurement of Non-financial Assets (Canberra II), Robin Lynch presented a paper on the treatment of land, and in particular land improvements. While there was no agreement at the meeting as to what the preferred treatment of land and land improvements should be, there was very little support expressed for the current treatment. This led the chairman, Peter Harper, to propose that a paper be prepared setting out the issues and members be asked to vote on the alternative treatments discussed at the meeting. The vote was taken at the March 2004 meeting of Canberrra II, and a substantial majority of members supported the treatment recommended in this paper. The treatment of the costs of ownership transfer of land (COTL) was not discussed by Canberra II, and the recommendation presented below is that of the author.

2. The 1993 SNA recommends that land improvements be classified as gross fixed capital formation (GFCF) while at the same time recommending that they be regarded as part of land and recorded as non-produced assets on the balance sheet. The decline in value of land improvements is recorded as consumption of fixed capital (CFC). Hence, in the flow accounts land improvements and their consumption are treated as produced assets, but on the balance sheet they are recorded as being part of land, a non-produced asset. The same is true of COTL.

3. It is recommended that these treatments be changed such that land improvements are treated in the same way as buildings and structures and COTL is treated in the same way as COT on other assets. Thus,

i. GFCF of land improvements should be treated like other GFCF and result in the creation of either produced fixed assets or an addition to produced fixed assets. The resulting assets should be termed land improvements.

ii. Land should be valued at its present unimproved value.

iii. In some cases the value of unimproved land is directly available, but in cases when it is not a disaggregation of the combined value of the unimproved land and land improvements is required. In such cases the principles described in the 1993 SNA for dealing with land under buildings (paragraph 13.57) should be adopted. Namely, when suitable data are available a disaggregation should be imputed, but when the value of unimproved land cannot be separated from land improvements the composite asset should be classified in the category representing the greater part of the value.

iv. Rentals payable on land improvements should be treated as purchases of services. In practice, however, a single payment will often cover both the rent for the unimproved land and the rental for the land improvements and buildings sitting on the land. When this occurs the principle described in the 1993 SNA for dealing with land under buildings (paragraph 7.131) should be adopted. Namely, if there is no objective basis on which to split the payment between rent on unimproved land and rentals for the remainder then the whole amount should be treated as rent if

the value of unimproved land is believed to exceed the combined value of buildings and land improvements, and as a rental otherwise.

Note: another issue being dealt with by the Canberra II Group concerns rent and rentals for produced and non-produced assets. It is therefore possible that the Group will propose changes to the 1993 SNA that would impinge on this recommendation. However, as such proposals would affect a much wider class of assets than land improvements, it is best that the two issues be considered separately. The essence of the current proposal is that land improvements should be treated in the same way as buildings and structures.

v. COTL should be treated in the same way as COT on other types of asset and be recorded as a fixed asset on the balance sheet. It is proposed that it all be allocated to land improvements.

4. It is considered by the majority of Canberra II members that the recommended treatment for land improvements has conceptual and practical advantages over the current treatment, and would not impose any extra burden on compilation. The recommended treatment for COTL is consistent with that for land improvements. Together they will have no impact on GDP, NDP or net worth.

5. Does the AEG agree to these recommendations?

B. Background and reasons for change

The current SNA

6. Paragraphs 10.51 to 10.54 of the 1993 SNA explain how improvements to tangible non-produced assets should be treated in the system. Paragraph 10.51 reads as follows:

10.51 Acquisitions that lead to major improvements in the quantity, quality or productivity of land, or prevent its deterioration, are treated as gross fixed capital formation. They consist of acquisitions related to the following kinds of activities:

a) Reclamation of land from the sea by the construction of dykes, sea walls or dams for this purpose;

b) Clearance of forests, rocks, etc. to enable land to be used in production for the first time;

c) Draining marshes or the irrigation of deserts by the construction of dykes, ditches or irrigation channels;

d) Prevention of flooding or erosion by the sea or rivers by the construction of breakwaters, sea walls or flood barriers.

7. While improvements to land are classified as gross fixed capital formation (GFCF) land, including land improvements, is classified as a non-produced asset. The 1993 SNA's justification for the inclusion of land improvements as part of a non-produced asset, rather than being treated as a separate produced asset, is that land improvements are not in themselves used directly to produce other goods and services in a way that most structures are. Rather, land improvements are undertaken to obtain more or better land, and it is the services of land which contribute to the production of goods and services.

8. The decline in the value of land improvements is recorded as consumption of fixed capital (CFC).

Conceptual issues

9. Land is classified in the 1993 SNA as a tangible non-produced non-financial asset – AN.21. This classification makes it difficult to record the flows from opening to closing balance of the value of the stock of land. Land improvements are classified under GFCF as a produced asset (AN.11). The resulting change in value to the land must be re-routed in the accounts so that the increase in value due to capital formation under AN.11 can be reflected in the value of the stock of land (AN.21) through an adjustment item.

10. In the 1993 SNA, GFCF of land improvements results in an increase in a tangible non-produced asset, i.e. production results in an increase in a non-produced asset. All other GFCF results in either a corresponding produced asset (e.g. the formation of new equipment, new buildings and new roads) or the augmentation of an existing produced asset where the latter's productive capacity is increased.

11. An odd feature of the current recommendation is that there is consumption of fixed capital (CFC) of something now reclassified as a non-produced asset. In order to correctly account for CFC the SNA recognises that part of land (a non-produced asset) is in fact produced (land improvements).

12. The explanation given in the 1993 SNA for the treatment of land improvements as non-produced assets (paragraph 10.52) is that they do not of themselves contribute to the production of goods and services, rather they enable or improve the land's ability to do so. In effect, the SNA argument is that the capital services produced by land improvements flow to the land and do not flow directly to the production of other goods and services. By contrast, the SNA recommends that buildings and other structures should be treated as separate assets because they are used separately from the land on which they sit. But do they? The location of a building (a property of land) is often critical to a building's function, and it is the combination of a building and land that produces capital services.

13. According to the 1993 SNA, similar kinds of structure should be classified as produced assets or part of land depending on their purpose. The SNA gives the example of a dam built to produce electricity (a produced asset) and one to keep out the sea (a non-produced asset) in paragraph 10.52. The argument being that a dam used for electricity is used separately from the land, while a dam to keep out the sea is a land-enabling asset. Presumably, a dam built to supply water for a city should be classified as a produced asset because it is not land enabling, but a dam built to supply water for animals on a farm is land enabling and therefore should be classified as part of (non-produced) land. The SNA says it is worth making this distinction, but the distinction is well made by classifying GFCF by industry of activity. In this way all capital formation intended to support agricultural production, such as water storage for animals and crops, land clearing, draining, dykes, etc. is classified to the agriculture industry and there is no need to have the produced/non-produced dichotomy to achieve it.

14. The argument made by the 1993 SNA that land improvements enhance the land and therefore should be subordinated to land appears to ignore the possibility that for a lot of land the value of land improvements exceed the value of the land in its unimproved state by a substantial margin. Such is likely to be the case where land improvements have been very extensive: the terracing of hilly land, the building of dykes and the draining of land in the Netherlands and eastern England, irrigation systems in dry areas of Australia, the US and the Middle East. In cases such as these, it is likely that the land improvements (i.e. produced assets) are contributing much more to production than the unimproved land.

15. In the 1993 SNA lease payments for land are generally treated as rents – a form of property income – while lease payments for produced assets are generally treated as rentals - purchases of services. Hence lease payments for agricultural land are treated as rents, even though in almost all cases part of the

capital services produced by land is produced by land improvements, and in some cases the bulk of capital services is produced by land improvements.

16. In the 1993 SNA the cost of ownership transfer of land (COTL) is treated in a similar way to land improvements, namely: it is recorded as GFCF, it is combined with land on the balance sheet and CFC is recorded. This treatment suffers from the same difficulties as land improvements. It is proposed, therefore, that its treatment be changed, and that it be recorded as a fixed asset on the balance sheet. To be consistent with other fixed assets, only that part of COTL associated with land improvements should be attributed to land improvements. This would mean splitting COTL into two parts: one part attributable to land improvements and the other part attributable to unimproved land. Such a split, however, does not appear to serve any purpose, and so it is therefore proposed to attribute the whole of COTL to land improvements.

Measurement issues

17. The treatment in the 1993 SNA requires estimates of GFCF for land improvements and requires the use of the perpetual inventory method (PIM), along with all the required information (such as asset lives), to calculate CFC. Hence, the proposal described here imposes no additional burden in respect of measuring GFCF and CFC.

18. Several countries (Germany and Canada) have reported that they have data for the GFCF of land improvements but none for the value of land. In such cases, the proposal to record land improvements as produced assets fits perfectly with data availability.

19. While it may be the case that some national statistical offices may lack the data to separately identify the value of unimproved land directly, it could be derived indirectly by subtracting an estimate of the capital stock of land improvements (derived using the PIM) from the composite value of unimproved land and land improvements, if such estimates are available.

20. Some land improvements (e.g. clearing land of trees and stones, and draining of marshes) occurred a long time ago in many countries and the lack of GFCF data for such work might make it impracticable to derive separate estimates of the asset values of land improvements and unimproved land. If it is not possible to estimate the contribution of improvements to the composite value of land, then the land could be considered to be either wholly produced or wholly non-produced depending on whether the produced component or the non-produced component is judged to be making the biggest contribution to the value of the composite asset. This would be consistent with the recommendations given in paragraph 13.57 of the 1993 SNA in respect of land and buildings. But making such judgements only need apply in respect of land improvements made in time periods prior to the availability of GFCF data of land improvements.

21. If it is not possible to split land improvements from unimproved land because the land improvements were made long ago and the composite asset is judged to be produced then, in principle, there should be CFC. But improvements made to land long ago must necessarily have low values of CFC now, and if it is not possible to estimate them they could be assumed to be zero.

22. Leases for agricultural land are for the composite asset, including land improvements, in the same way that leases for buildings generally include the land as well. By using estimates of GFCF of land improvements (and buildings sitting on the land if necessary) and the value of unimproved land, estimates of the capital service flow could be derived for the produced and non-produced components for all the land in each institutional sector. If it were assumed that the relative size of these components was representative of land subject to leases then they could be used to apportion lease payments into rent

payable for unimproved land and rentals payable for land improvements (and buildings). If, however, it is not possible to split the payment between rent on unimproved land and rentals for the remainder then an extension of the recommendation in paragraph 7.131 of the 1993 SNA in respect of land buildings should apply, namely that the whole should be treated as rent if the value of the unimproved land is believed to exceed the combined value of buildings and land improvements, and as a rental otherwise.

23. A significant practical drawback with the treatment of land improvements in the 1993 SNA is that it requires that the GFCF of land improvements be separately identifiable from that of other construction work, because the former are classified as part of land (a non-produced asset) and the latter are classified as leading to produced assets. Thus, the construction of a dam to provide water for animals and the construction of an access road on agricultural land need to be classified separately. Or, if one regards farm access roads as land improvements, then such roads need to be classified separately from access roads to mines and public roads. Such precision imposes a heavy burden on building and construction surveys, because the degree of precision with which the demarcations can be measured determines the relative sizes of the aggregates of produced and non-produced assets on the balance sheet. If, instead, GFCF of land improvements resulted in the creation or increase of produced fixed assets, then any imprecision regarding the distinction of GFCF on land improvements vis à vis other construction would work would have no bearing on the size of the capital stock of produced and non-produced aggregates.

C. Recommendations for change

24. It is recommended that the treatment of land improvements be changed such that land they are treated in the same way as buildings and structures and COTL is treated in the same way as COT on other assets. This implies that:

i. GFCF of land improvements should be treated like other GFCF and result in the creation of either produced fixed assets or an addition to produced fixed assets. The resulting assets should be termed land improvements.

ii. Land should be valued at its present unimproved value.

iii. In some cases the value of unimproved land is directly available, but in cases when it is not a disaggregation of the combined value of the unimproved land and land improvements is required. In such cases the principles described in the 1993 SNA for dealing with land under buildings (paragraph 13.57) should be adopted. Namely, when suitable data are available a disaggregation should be imputed, but when the value of unimproved land cannot be separated from land improvements the composite asset should be classified in the category representing the greater part of the value.

iv. Rentals payable on land improvements should be treated as purchases of services. In practice, however, a single payment will often cover both the rent for the unimproved land and the rental for the land improvements and buildings sitting on the land. When this occurs the principle described in the 1993 SNA for dealing with land under buildings (paragraph 7.131) should be adopted. Namely, if there is no objective basis on which to split the payment between rent on unimproved land and rentals for the remainder then the whole amount should be treated as rent if the value of unimproved land is believed to exceed the combined value of buildings and land improvements, and as a rental otherwise.

Note: another issue being dealt with by the Canberra II Group concerns rent and rentals for produced and non-produced assets. It is therefore possible that the Group will propose changes

to the 1993 SNA that would impinge on this recommendation. However, as such proposals would affect a much wider class of assets than land improvements, it is best that the two issues be considered separately. The essence of the current proposal is that land improvements should be treated in the same way as buildings and structures.

v. The cost of ownership transfer of land should be treated in the same way as COT on other asset types of asset and be recorded as a fixed asset on the balance sheet. It is proposed that it all be allocated to land improvements.

D. Business accounting standards

25. In some respects the proposed changes would better concord with business accounting standards and in other respects they would not. For measuring GFCF the proposed changes would achieve greater alignment, as it would not be as important to distinguish between GFCF associated with land improvements and other GFCF. Likewise, a split of COT would not be as important. But on the balance sheet side the proposed treatment, at least in concept, would see some assets split into "produced" and "non-produced" components -- a split that would probably never be of interest to businesses. But the paper proposes a practical solution to this problem, and the problem already exists with regard to buildings and structures. Furthermore, it is unlikely that national accountants would use business accounting balance sheets to produce balance sheets for national accounts purposes.

E Impact on the accounts and GDP

26. Many of the accounts are affected by the proposed changes, but in a fairly straightforward way. For simplicity only the directly affected entries are shown for the accounts of the whole economy. Entries, as they are shown in Annex V of the 1993 SNA, are made using a normal font while proposed changes are made using italics. Explanations are given in brackets.

Account 0: Goods and services account

Resources	
P.1 Output	3604
(Payments for use of land improvements treated as rentals, not rents)	*3611*
Uses	
P2. Intermediate consumption	1883
(Payments for use of land improvements treated as rentals, not rents)	*1890*
P5111. Acquisitions of new tangible fixed assets	305
(GFCF of land improvements and COT of land now included in this item)	*327*
P5131. Major improvements to non-produced non-financial assets	5
(Now included in P5111)	*0*
P5132. Costs of ownership transfer on non-produced non-financial assets	17
(COT now included in P5111)	*0*

Account 11.1.1: Allocation of primary income account

D.45 Rent	65
(Payments for use of land improvements treated as rentals, not rents)	*58*

Account: 11.1.2.1: Entrepreneurial income account	
D.45 Rent	45
(Payments for use of land improvements treated as rentals, not rents)	*38*
Account 111.1: Capital account	
Changes in assets	
P5111. Acquisitions of new tangible fixed assets	305
(GFCF of land improvements and COT of land now included in this item)	*327*
P5131. Major improvements to non-produced non-financial assets	5
(Now included in P5111)	*0*
P5132. Costs of ownership transfer on non-produced non-financial assets	17
(Now included in P5111)	*0*
Account 111.3.2: Revaluation account	
Changes in assets	
AN.11 Fixed assets	111
(Land improvements and COT of land now included in this item)	*114*
AN.21 Tangible non-produced assets	152
(Land improvements and COT of land now excluded from this item)	*149*
Account IV.1: Opening balance sheet	
Assets	
AN.11 Fixed assets	5 544
(Land improvements and COT of land now included in this item)	*5 644*
AN.21 Tangible non-produced assets	3 809
(Land improvements and COT of land now excluded from this item)	*3 709*
Account IV.2: Changes in balance sheet	
Total changes in assets	
AN.11 Fixed assets	239
(Land improvements and COT of land now included in this item)	*264*
AN.21 Tangible non-produced assets	193
(Land improvements and COT of land now excluded from this item)	*168*
Account IV.3: Closing balance sheet	
Assets	
AN.11 Fixed assets	5 783
(Land improvements and COT of land now included in this item)	*5 808*
AN.21 Tangible non-produced assets	4 000
(Land improvements and COT of land now excluded from this item)	*3 975*

27. The proposed changes have no impact on GDP.

For Official Use **STD/NAES(2004)18**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development **06-Oct-2004**

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)18
For Official Use

National Accounts and Economic Statistics

ISIC REVISION 4: PROPOSALS FOR A HIGH-LEVEL ('TOP-TOP') STRUCTURE FOR THE PURPOSE OF NATIONAL ACCOUNTS REPORTING BY ACTIVITY:

WHAT ARE NATIONAL ACCOUNTING NEEDS REGARDING THE REVISION OF ISIC (AND CPC)?

This document has been prepared by William CAVE - OECD (Statistics Directorate)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12 - 15 October 2004
Tour Europe, Paris La Defense

Beginning at 9:30 a.m. on the first day

For further information please contact:
William Cave
E-mail: william.cave@oecd.org

JT00170912

English - Or. English

ISIC REVISION 4: PROPOSALS FOR A HIGH-LEVEL ('TOP-TOP') STRUCTURE FOR THE PURPOSE OF NATIONAL ACCOUNTS REPORTING BY ACTIVITY:

WHAT ARE NATIONAL ACCOUNTING NEEDS REGARDING THE REVISION OF ISIC (AND CPC)?

Note by OECD Statistics Directorate

This paper sets out a Eurostat proposal (attached at Annex 1) for an aggregation structure for the reporting of national accounts data by activity following the revision of the activity classifications. It seeks to draw this to the attention of the wider OECD national accounts community to stimulate discussion on a future internationally agreed reporting structure for activities applicable across OECD countries. It also raises wider questions about national accounting needs for standard activity groupings, and whether national accounting needs should be addressed more clearly in the revision of the Central Product Classification (CPC).

A fully detailed proposal for the Revision 4 of the International Standard Industry Classification of All Economic Activities (ISIC rev 4) was circulated in May 2004 by the United Nations Technical Sub-Group of the Expert Group on Economic and Social Classifications (TSG). This worldwide consultation terminates in December 2004. ISIC rev 4 is expected then to be finalised by the end of 2005.

The proposed ISIC rev 4 has a number of significant changes from ISIC rev 3.1. It reflects the outcome of a convergence exercise between NACE (the European activity classification), NAICS (the North American industry classification) and other regional industry classifications, such as ANZSIC and JSIC. It introduces a new information and communication section and more clearly identifies the 'information and communication technology' (ICT) activities in manufacturing and services. It also reflects the growing importance of service activities generally in economies over the last fifteen years since ISIC rev 3 was created.

A prime use of ISIC is for the internationally comparable reporting of economic statistics by activity or industry, for example, in national accounts. National accountants have evolved their own aggregations for reporting. In ISIC rev 3 the so-called A6, A17, A31 and A60 aggregation structures have been used for reporting national accounts data.

The A6 structure for ISIC rev 3 breaks out six activity groups as follows:

AB	*Agriculture, hunting, forestry and fishing*
CDE	*Industry including energy*
F	*Construction*
GHI	*Distributive trades, hotels and transport*
JK	*Financial, real estate and business services*
L to P	*Other services.*

A17 was the 17 sections of ISIC rev3, A31 added a disaggregation of manufacturing activity and A60 was the two-digit level of ISIC rev 3.

ISIC rev 4, as proposed, has 21 sections at the top level, which is too many for aggregated national accounts reporting and 87 two-digit divisions.

The Proposed Top-Top Structure for ISIC rev 4

The Eurostat proposed top-top structure has *nine* activity groups as follows:

Proposed Top-top breakdown	Comprises new ISIC rev4 sections
1. Agriculture, hunting, forestry and fishing	A
2. Industry, including energy and waste management	B, C, D and E
3. Construction	F
4. Trade, transport, accommodation and food services activities	G, H and J*
5. Information and communication	K
6. Financial and insurance activities	L
7. Real estate, rental and business activities	M, N and O
8. Public administration, education and health	T**, P and Q
9. Other services activities	R, S and U

*Section I does not exist.
**This requires a re-ordering of the sections of ISIC rev 4 to maintain hierarchy

The Eurostat proposal goes on to propose 65 sub-sections (set out in the Annex) less than the 87 two digit divisions of the proposed ISIC rev 4. The Eurostat proposal also advocates a slight re-ordering of the current ISIC sections taking public administration up the order from its current penultimate position in ISIC rev 4 proposal.

OECD National Accountants are invited to comment on the potential usefulness of this Eurostat proposal for a top-top structure (A9) and for sub-sections (A65) for the purposes of internationally comparable national accounts data reporting across the OECD from their national perspective.

Is there a need at this stage to elaborate the proposal to include the various intermediate levels, i.e. the equivalent of the A17 and A31 as well as the top-top structure and sub-sections?

These aggregations are related to ISIC, but supply-use tables require product information in principle, should we request that the CPC revision address national accountants needs regarding product groupings in supply-use tables?

Who should properly take this work forward? OECD or UNSD? And in what timescale?

As for Eurostat, an OECD data reporting structure for activities cannot be finalised until ISIC rev 4 is finalised, but national accountant comments could also influence final decisions on the ISIC structure.

ANNEX 1

STATISTICAL OFFICE OF THE EUROPEAN COMMUNITIES

B1 Co-ordination of methods
Tel. (352) 4301-33410, Fax (352) 4301-33899

EUROPEAN COMMISSION
EUROSTAT

Directorate C: Economic and monetary statistics
Unit C-1: National accounts
Unit C-2: Economic accounts

New ISIC/NACE
Top-top structure and subsections
State of play

Paper by Eurostat C1/C2
for 20-21 September 2004
Working Group on NACE/CPA

Introduction

This paper describes briefly the progress made to date concerning the proposals for a new "top-top" structure and a new subsection structure for the revised ISIC and NACE.

National accountants have been asked to make proposals for these new structures, as they will be used mainly by national accounts. A first discussion on the new structures was held at the National Accounts Working Party of May 2004 (see paper CN/549). After that, several Member States' national accountants have delivered further detailed comments in writing to Eurostat. The current paper takes these comments into account to the maximum extent possible.

Comments from the NACE/CPA Working Group are highly welcomed.

The top-top structure

EU national accountants generally agreed with the top-top structure that was proposed in May, which was as follows:

Top-top breakdown	Comprises new ISIC sections
1. Agriculture, hunting, forestry and fishing	A
2. Industry, including energy and waste management	B, C, D and E
3. Construction	F
4. Trade, transport, accommodation and food services activities	G, H and J*
5. Information and communication	K
6. Financial and insurance activities	L
7. Real estate, rental and business activities	M, N and O
8. Public administration, education and health	T**, P and Q
9. Other services activities	R, S and U

*Section I does not exist.
**This requires a re-ordering of the sections of ISIC rev 4 to maintain hierarchy

Note that this structure is conditional on the re-ordering of section T (Public administration and defence; compulsory social security). If the re-ordering is not accepted in the final version of ISIC, other aggregations have to be made.

Some countries have argued in favour of separating out section C (Manufacturing), since many users would welcome this. However, this is not possible to achieve within the current ordering of sections, because it would imply separate headings for section B (Mining) on the one hand, and sections D (Electricity, gas, steam and air conditioning supply) and E (Water supply, sewerage, waste management and remediation activities) on the other hand. These sections are however too small to warrant separate headings in the top-top structure.

Theoretically, one could consider a re-ordering of the sections in order to make it possible to separate out section C, but the resulting classification would not be an improvement to the current one.

One country wished to see larger aggregates in the service branches, effectively reducing the number of headings bringing it back to the current A6 level, in particular because of doubts on the feasibility of the "Information and communication" heading (on a quarterly basis). Eurostat thinks that the revision of the NACE is an opportunity to improve the relevance of our national classifications in particular in the domain of services.

In conclusion, the existing proposal is maintained for the moment. A further discussion may take place at the National Account Working Group in November 2004. In the end, the final version obviously depends on the final version of ISIC.

The subsection structure

Several countries have supported Eurostat's view that the current number of divisions in the new ISIC and NACE (87) would be too high for regular use in the EU's ESA95 national accounts transmission programme. Some countries remarked that for them, the 87 divisions would give no problem because it is still more aggregated than what they regularly produce domestically. However, the ESA95 transmission programme is designed to deliver internationally comparable data, which implies that often less disaggregated classifications need to be used than what is possible in some countries.

At the same time, EU national accountants have indicated that they wish to maintain the current close connection between NACE (and CPA) and ESA95. Thus, the idea of creating a subsection level in NACE was generally welcomed, and Eurostat will continue elaborating this structure.

Several countries commented in detail on individual positions of the subsection structure as proposed in the May meeting. On the basis of these comments, Eurostat revised the structure, which is attached here in the annex. It goes too far for this paper to elaborate in detail on the comments and the changes made, but in general one could say that several breakdowns in manufacturing have been re-introduced, while some proposed new breakdowns in services have been withdrawn. The total number of subsections in now 65.

This proposal is still subject to change. It may be discussed again at the National Accounts Working Group in November, and of course it depends crucially on the final version of ISIC.

Annex: Current draft of new NACE and proposed top-top structure and subsections

Draft new NACE (from consultation document)	*Proposed top-top structure and subsections*	*reference to A60*		*number of sub-sections*	*corres-ponding number of division s in A60*
A Agriculture, forestry and fishing	**1 Agriculture, hunting, forestry and fishing**				
01 Crop and livestock production, hunting and related service activities	AA Crop and livestock production, hunting and related service activities	01			
02 Forestry and logging	AB Forestry and logging	02			
03 Fishing and aquaculture	AC Fishing and aquaculture	03		3	3
B Mining and quarrying	**2 Industry, including energy and waste management**				
05 Mining of coal and lignite	BA Mining and quarrying	10			
06 Extraction of crude petroleum and natural gas	"	11			
07 Mining of metal ores	"	13	(12 has disappeared)		
08 Other mining and quarrying	"	14			
09 Mining support service activities	"	new		1	5
C Manufacturing					
10 Manufacture of food products	CA Manufacture of food products, beverages and tobacco products	15			
11 Manufacture of beverages	"	15			
12 Manufacture of tobacco products	"	16			
13 Manufacture of textiles	CB Manufacture of textiles, wearing apparel and leather	17			
14 Manufacture of wearing apparel	"	18			
15 Manufacture of leather and related products	"	19			
16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	CC Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw	20			
17 Manufacture of paper and paper products	CD Manufacture of paper and paper products	21			
18 Printing and reproduction of recorded media	CE Printing and reproduction of recorded media	22	excl. publishing		
19 Manufacture of coke and refined petroleum products	CF Manufacture of coke and refined petroleum products	23			
20 Manufacture of chemicals and chemical products	CG Manufacture of chemicals and chemical products	24			
21 Manufacture of pharmaceuticals	CH Manufacture of pharmaceuticals	24			
22 Manufacture of rubber and plastics products	CI Manufacture of rubber and plastics products	25			
23 Manufacture of other non-metallic mineral products	CJ Manufacture of other non-metallic mineral products	26			

24 Manufacture of basic metals	CK Manufacture of basic metals	27			
25 Manufacture of fabricated metal products, except machinery and equipment	CL Manufacture of fabricated metal products, except machinery and equipment	28			
26 Manufacture of computers and electronic products	CM Manufacture of computers and electronic products	30	regrouping		
27 Manufacture of electrical equipment	CN Manufacture of electrical equipment	31	regrouping		
28 Manufacture of machinery and equipment n.e.c.	CO Manufacture of machinery and equipment n.e.c.	29	regrouping		
29 Manufacture of motor vehicles	CP Manufacture of transport equipment	34			
30 Manufacture of other transport equipment	"	35			
31 Manufacture of furniture	CQ Manufacturing n.e.c.	36			
32 Manufacturing n.e.c.	"	36			
33 Repair, maintenance and installation of machinery and equipment	CR Repair and maintenance and installation of machinery and equipment	new		18	22
D Electricity, gas, steam and air conditioning supply					
34 Electricity, gas, steam and air conditioning supply	DA Electricity, gas, steam and air conditioning supply	40		1	1
E Water supply; sewerage, waste management and remediation activities					
35 Water collection and supply	EA Water collection and supply	41			
36 Sewerage	EB Sewerage, waste management and remediation activities	90			
37 Waste collection, treatment and disposal activities; materials recovery	"	90+37			
38 Remediation activities and other waste management services	"	90		2	3
F Construction	**3 Construction**				
39 Construction of buildings	FA Construction of buildings and civil engineering	45			
40 Civil engineering	"	45			
41 Specialized trades	FB Specialized trades in construction	45		2	1
G Trade	**4 Trade, transport, accommodation and food services activities**				
42 Wholesale and retail trade and repair of motor vehicles and motorcycles	GA Wholesale and retail trade and repair of motor vehicles and motorcy	50			
43 Wholesale trade and commission trade, except of motor vehicles and motorcycles	GB Wholesale trade and commission trade, except of motor vehicles and motorcycles	51			
44 Retail trade, except of motor vehicles and motorcycles	GC Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods	52		3	3

H Transportation and storage					
45 Land transport; transport via pipelines	HA Land transport; transport via pipelines	60			
46 Water transport	HB Water transport	61			
47 Air transport	HC Air transport	62			
48 Warehousing and support activities for transportation	HD Warehousing and support activities for transportation	63			
50 Postal and courier activities	HE Postal and courier activities	64	excl telecommunication	5	5
J Accommodation and Food service activities					
51 Accommodation	JA Accommodation and food service activities	55			
52 Food service activities	"	55		1	1
K Information and communication	**5 Information and communication**				
53 Publishing activities	KA Publishing activities	22+	split from printing, incl software publishing		
54 Motion Picture and sound recording activities	KB Motion Picture and sound recording activities	92			
55 Broadcasting	KC Broadcasting	92			
56 Telecommunications	KD Telecommunications	64	excl post		
57 Information technology, internet service providers and web search portals and other information service activities	KE Information technology, internet service providers and web search portals and other information service activities	72+	mostly computer services	5	1
L Financial and insurance activities	**6 Financial and insurance activities**				
59 Financial intermediation, except insurance and pension funding	LA Financial intermediation, except insurance and pension funding	65			
60 Insurance, reinsurance and pension funding, except compulsory social security	LB Insurance and pension funding, except compulsory social security	66			
61 Other financial activities	LC Other financial activities	67		3	3
M Real Estate, rental and leasing activities	**7 Real estate, rental and business activities**				
62 Real estate activities	MA Real estate activities	70			
63 Rental and leasing	MB Rental and leasing	71		2	2
N Professional, Scientific and Technical Activities					
64 Legal and accounting activities	NA Legal, accounting and managament consultancy activities; holding companies	74			
65 Activities of holding companies; management and management consultancy activities	"	74			
66 Architecture and Engineering activities; technical testing and analysis	NB Architecture and Engineering activities; technical testing and analysis	74			

67 Scientific research and development	NC Research and development	73			
68 Advertising and Market research	ND Advertising and Market research	74			
69 Photographic activities and other professional, scientific and technical activities	NE Photographic activities and other professional, scientific and technical activities	74			
70 Veterinary activities	"	80	split from health	5	2
O Administrative and support service activities					
71 Employment activities	OA Employment activities	74			
72 Activities of travel agencies, tour operators and other reservation service activities	OB Activities of travel agencies, tour operators and other reservation service activities	63	split from transport		
73 Investigation and security activities	OC Investigation and security, services to buildings and landscape and other support activities,	74			
74 Services to buildings and landscape activities	"	74			
75 Office administrative, business support and other support service activities	"	74		3	0
T Public administration and defence; compulsory social security *(changed order!)*	**8 Public administration, education and health**				
87 Public administration and defence; compulsory social security	TA Public administration and defence; compulsory social security	75		1	1
P Education					
76 Education	PA Education	80		1	1
Q Human health and social work					
77 Human health activities	QA Human health activities	85			
78 Residential care services	QB Social work activities	85			
79 Social work activities without accommodation	"	85		2	1
R Arts, entertainment and recreation	**9 Other services activities**				
80 Dramatic arts, music and other arts and entertainment activities	RA Arts, entertainment and museum activities	92			
81 Museums activities, preservation of historical sites, botanical and zoological gardens and nature reserves	"	92			
82 Gambling and betting activities	RB Sports, amusement and recreation activities	92			
83 Sports activities and amusement and recreation activities	"	92		2	1

S Other service activities				
84 Activities of membership organizations	SA Activities of membership organizations	91		
85 Repair of computers and personal and household goods	SB Repair of computers and personal and household goods	new		
86 Other service activities	SC Other service activities	93	3	2
U Activities of house holds as employers; undifferentiated goods- and services-producing activities of households for own use				
88 Activities of households as employers of domestic personnel	UA Activities of households as employers of domestic personnel	95		
89 Undifferentiated goods- and services-producing activities of private households for own use	"	95	1	1
V Extraterritorial organizations and bodies	**not included in top-top structure**			
90 Extraterritorial organizations and bodies	VA Extraterritorial organizations and bodies	99	1	1
			65	60

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

30-Sep-2004

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)13
For Official Use

National Accounts and Economic Statistics

SITUATION OF ANNUAL NATIONAL ACCOUNTS IN THE OECD DATABASE

This document has been prepared by Michèle HAINAUT - OECD (Statistics Directorate)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12 - 15 October 2004

Tour Europe, Paris La Defense
Beginning at 9:30 a.m. on the first day

For further information please contact:
Michèle Hainaut
michele.hainaut@oecd.org

JT00170443

English - Or. English

SITUATION OF ANNUAL NATIONAL ACCOUNTS IN THE OECD DATABASE

AND NEW FEATURES OF THE JOINT OECD-EUROSTAT QUESTIONNAIRE

1. The objective of this paper is to inform experts participating in the 2004 OECD national accounts meeting of the situation regarding the collection and dissemination of annual national accounts data in the OECD and also to inform them of the new features of the joint OECD-Eurostat questionnaire. Besides being a forum on national accounts issues, one of the missions of the OECD Statistics Directorate is to collect and disseminate national accounts data, both on a country basis and on a geographically aggregated "area" basis. OECD is proud to be one of the best sources of international data, through its public databases and its publications. As of today, a substantial part of OECD databases are open (and free of charge) to partner organizations of the OECD through the OLISnet network. All national statistical offices producing national accounts are partners and have therefore free access to OLISnet. During 2002, OECD extended this policy to other important parts of its database. As a result all main aggregates of national accounts are now available free on the Internet.

I. The situation of annual national accounts database

2. This database contains a large set of consistent and comparable SNA 93 annual data, using common classifications, for all OECD Member countries, with the exception of Turkey which is still using the SNA 68. Priority has been given to full comparability, but slight inconsistencies may appear with the headline national presentation of data if the country does not apply SNA 93 to the full extent or does not use the same classifications. The data are less timely than national data, due to the delay it takes for countries to transmit the data.

3. A joint OECD-Eurostat national accounts questionnaire is used to collect the data. This questionnaire is sent by Eurostat to European countries and by the OECD to non-European Members countries of the OECD.

1 Transmission of data

4. Transmission to the OECD is based on this common questionnaire and has to be addressed to sna.contact@oecd.org . For European Member countries, the questionnaire is strictly identical to the questionnaire to be transmitted to Eurostat. It is therefore recommended for European countries to send the questionnaire tables to the OECD and Eurostat using the same Email, with two different addresses, one for Eurostat and the other for OECD (sna.contact@oecd.org). It is highly recommended that data transmission to OECD is made the very same day as the data are published by the national statistical office. Release dates are closely followed by our desk-economists who expect to access the data on the OECD database when they are available in the databases of Member countries.

2 Availability of data

5. The OECD database covers the tables 0101 to 0119, 0200, 0301 to 0303, 0501, 0502, 06, 07, 0800, 0900, 1100 and 1400 of the national accounts questionnaire. The table below shows the situation of countries regarding the questionnaire tables transmission to OECD and the data coverage. Table 06

(Financial accounts by sector) and table 07 (Balance sheets for financial assets and liabilities by sector) are not covered in this overview because they have already been treated in the OECD Working Party on financial statistics which was held on 11-12 October 2004.

Table 1 - DATA AVAILABILITY AND COVERAGE (mid September 2004)

Quest. Table	Questionnaire SNA93/ESA95	AUS	AUT	BEL	CAN	CZE	DNK	FIN	FRA	DEU	DEW	GRC	HUN	ISL	IRL	ITA	JPN
0101	Gross value added at basic prices and gross domestic product	89-02	76-03	80-03	70-00	90-03	66-03	75-03	78-03	91-03	70-91	95-03	95-02	90-01	90-02	70-03	80-02
0102	Gross domestic product identity from the expenditure side	59-02	76-03	80-03	70-03	90-03	66-03	75-03	78-03	91-03	70-91	60-03	95-03	90-03	90-03	70-03	80-03
0103	Gross domestic product identity from the income side	59-02	76-03	80-02	70-03	92-03	66-03	75-03	78-03	91-03	70-91	95-03	95-02	90-03	90-03	70-03	80-02
0104	Final consumption	59-02	76-03	80-02	70-03	90-03	66-03	75-03	78-03	91-03	70-91	60-03	95-03	90-03	90-03	70-03	80-02
0105	Gross capital formation	59-02	76-03	95-99	70-03	90-00	66-03	75-03	78-03	91-03	70-91	60-03	..	90-03	90-03	70-03	80-02
0106	Exports and imports of goods (fob) and services	59-02	76-03	80-03	70-03	90-03	88-03	75-03	78-03	91-03	70-91	95-03	95-03	90-03	90-03	70-03	80-02
0107	Disposable income	59-02	76-03	80-03	70-03	92-00	66-03	75-03	78-03	91-03	70-91	60-03	95-02	90-03	90-03	70-03	80-02
0108	Saving and net lending/borrowing	59-02	76-03	80-03	70-03	92-00	66-03	75-03	78-03	91-03	70-91	60-03	...	90-03	90-03	70-03	80-02
0109	Real disposable income	59-02	76-03	80-03	71-03	..	88-03	75-03	78-03	91-03	70-91	95-03	..	90-03	90-03	70-03	80-02
0110	Population and Employment	85-01	76-03	83-02	70-03	93-03	88-03	75-03	78-03	91-03	70-91	95-03	92-03	88-03	95-03	82-03	70-02
0111	Employment and full time equivalents by industry	85-01	76-03	81-02	61-03	..	88-03	75-03	78-02	91-03	70-91	95-02	92-03	70-97	95-03	70-03	80-02
0112	Compensation of employees by industry	82-02	76-03	80-02	70-00	92-00	88-03	75-03	78-02	91-03	70-91	95-03	95-01	97-01	90-03	70-03	90-02
0113	Gross value added in A17 breakdown	89-02	.. t 03	.. t 03	81-00	90-03	.. t 03	.. t 03	78-02	.. t 03	.. t 03	95-02	95-02	97-01	90-02	70-03	80-02
0114	Employment by industry in A17 breakdown	70-01	.. t 03	.. t 03	61-03	..	.. t 03	.. t 03	90-02	91-02	.. t 03	95-02	95-03	90-97	95-03	70-03	80-02
0115	Compensation of employees by industry in A17 breakdown	82-02	.. t 03	.. t 03	70-00	92-00	.. t 03	.. t 03	78-02	.. t 03	.. t 03	95-02	95-01	97-01	90-01	70-03	90-02
0116	Final consumption expenditure of households by purpose (COICOP)	59-02	.. t 05	.. t 05	70-03	95-00	.. t 05	.. t 05	59-03	.. t 05	.. t 05	60-02	95-01	97-03	90-03	70-03	80-02
0117	Final consumption of households by durability	59-02	..	..	70-03	..	..	..	59-03	..	..	95-02	95-01	97-03	95-03	70-03	80-02
0118	Gross operating surplus by industry in A17 breakdown	89-02	.. t 03	.. t 03	70-00	92-00	.. t 03	.. t 03	78-02	.. t 03	.. t 03	95-02	95-01	97-01	90-01	.. t 03	90-02
0119	Simplified non-financial accounts by institutional sector	59-01	.. t 08	85-02	81-01	92-00	.. t 08	.. t 08	78-03	.. t 08	.. t 08	95-02	95-01	..	..	.. t 08	90-02
0200	Main aggregates of General Government	59-02	76-03	70-03	70-03	92-02	71-03	75-03	78-03	91-03	70-91	88-03	95-03	90-02	85-03	80-03	90-02
0301	Value added and its components, A31 breakdown	..	76-02	95-02	70-00	90-00	66-02	75-03	78-02	91-02	70-90	95-02	95-01	97-01	90-01	70-03	90-02
0302	Capital formation, A31 breakdown	..	76-02	95-02	70-00	95-03	93-01	75-03	95-02	91-02	70-90	95-02	95-01	..	95-03	70-03	..
0303	Labour input, A31 breakdown	85-98	76-02	95-02	61-03	..	66-02	75-03	90-02	91-02	70-90	95-02	95-02	90-97	95-03	70-03	80-02
0501	Final consumption expenditure of households by purpose	59-02	80-02	95-02	70-03	95-00	66-03	75-03	59-03	91-02	80-91	95-02	95-01	97-03	90-03	70-03	80-02
0502	Final consumption expenditure of households (nc, dc)	..	80-02	95-02	70-03	..	66-03	75-03	59-03	91-02	80-91	95-02	95-01	97-03	90-03	70-03	80-02
0800	Non-financial accounts by institutional sector (detailed)	..	95-02	85-02	..	92-01	81-02	75-03	78-03	91-02	..	95-02	..	..	..	80-02	80-02
0900	Detailed tax and social contribution receipts by type and by subsector	98-02	95-02	70-03	70-03	95-01	95-03	95-03	78-03	91-02	..	95-02	00-03	90-02	95-02	90-02	90-02
1100	Expenditure of General Government by function	98-02	95-02	90-02	..	..	90-03	90-02	95-02	91-02	..	90-02	..	90-01	95-02	90-02	90-02
1400	Fixed assets for total economy by industry, A17 and by product, Pi3	..	95-00	..	..	..	99-03	75-03	90-03	91-02	..	..	..	..	..	80-03	..

.. Table not transmitted / data not available

.. t 03 Table not transmitted but derived from table 03

95-02 No detailed breakdown

Table 1 - DATA AVAILABILITY AND COVERAGE (mid September 2004) (ctd)

Quest. Table	Questionnaire SNA93/ESA95	KOR	LUX	MEX	NLD	NZL	NOR	POL	PRT	SVK	ESP	SWE	CHE	TUR sna68	GBR	USA
0101	Gross value added at basic prices and gross domestic product	95-03	85-03	88-02	69-02	86-00	70-03	95-03	88-03	93-03	80-03	80-03	..	70-03	70-03	87-01
0102	Gross domestic product identity from the expenditure side	95-03	85-03	88-02	69-02	86-02	70-03	95-03	88-03	93-03	80-03	80-03	90-02	70-03	70-03	70-02
0103	Gross domestic product identity from the income side	95-03	85-03	88-02	69-02	86-02	70-03	95-02	95-03	93-03	80-03	80-03	90-01	87-03	70-03	70-02
0104	Final consumption	95-03	85-03	88-02	69-02	86-02	70-03	95-03	88-03	93-03	80-03	80-03	90-02	70-03	70-03	70-02
0105	Gross capital formation	95-03	85-03	88-02	69-02	87-02	70-03	95-02	88-03	930-3	80-03	80-03	90-01	70-03	70-03	70-02
0106	Exports and imports of goods (fob) and services	95-03	85-03	88-02	87-02	86-02	70-03	95-02	88-03	93-03	80-03	80-03	90-02	70-03	70-03	70-02
0107	Disposable income	95-03	85-02	88-02	69-02	86-02	70-03	95-02	88-03	93-01	95-03	80-03	90-01	70-03	70-03	70-02
0108	Saving and net lending/borrowing	95-03	85-02	88-02	69-02	86-02	70-03	95-02	88-03	93-01	95-03	80-03	90-01	70-03	70-03	70-02
0109	Real disposable income	95-03	..	88-02	69-02	87-02	..	..	..	..	95-02	80-03	..	..	70-03	70-02
0110	Population and Employment	95-03	85-03	88-03	87-02	85-03	70-03	92-03	95-03	94-02	95-03	93-03	..	70-02	88-03	70-02
0111	Employment and full time equivalents by industry	80-03	85-03	95-03	69-02	85-03	70-03	92-02	.. t 03	94-03	80-03	93-03	..	88-94	79-03	70-02
0112	Compensation of employees by industry	95-03	85-03	88-02	69-02	86-00	70-03	95-02	.. t 03	93-03	80-03	93-03	..	..	70-03	70-02
0113	Gross value added in A17 breakdown	95-03	85-03	88-02	.. t 03	86-00	.. t 03	95-03	.. t 03	93-03	95-02	.. t 03	..	..	.. t 03	87-01
0114	Employment by industry in A17 breakdown	92-02	85-03	95-01	.. t 03	85-03	.. t 03	92-02	.. t 03	94-03	95-02	.. t 03	..	..	.. t 03	70-02
0115	Compensation of employees by industry in A17 breakdown	95-03	.. t 03	88-02	.. t 03	86-00	.. t 03	95-02	.. t 03	93-03	95-02	.. t 03	..	..	.. t 03	70-02
0116	Final consumption expenditure of households by purpose (COICOP)	95-03	.. t 05	88-02	.. t 05	87-02	.. t 05	95-02	.. t 05	96-03	95-02	.. t 05	90-02	..	70-02	70-02
0117	Final consumption of households by durability	95-03	..	88-02	87-02	87-02	..	..	..	96-03	..	..	..	..	70-01	70-02
0118	Gross operating surplus by industry in A17 breakdown	95-03	.. t 03	88-02	.. t 03	86-00	.. t 03	95-02	.. t 03	93-01	95-02	.. t 03	..	..	..	87-01
0119	Simplified non-financial accounts by institutional sector	00-02	.. t 08	93-01	80-02	86-00	.. t 08	95-02	.. t 08	92-01	95-02	.. t 08	90-01	..	87-02	70-02
0200	Main aggregates of General Government	95-03	90-03	93-01	69-03	86-97	78-03	95-03	77-03	92-03	95-03	93-03	90-02	..	70-03	70-02
0301	Value added and its components, A31 breakdown	95-03	85-03	88-02	69-02	86-00	70-01	95-03	95-01	93-01	95-02	93-01	..	..	70-01	87-01
0302	Capital formation, A31 breakdown	~~70-01~~	..	93-99	69-02	..	70-01	92-02	95-01	92-01	95-98	93-01	..	..	70-99	..
0303	Labour input, A31 breakdown	92-03	85-03	95-01	69-02	89-03	70-01	92-02	95-01	94-03	95-02	93-01	..	..	79-01	70-02
0501	Final consumption expenditure of households by purpose	95-03	85-03	88-02	87-02	87-02	80-01	95-02	88-01	96-01	95-01	95-02	90-02	..	70-01	70-02
0502	Final consumption expenditure of households (nc, dc)	95-03	85-03	88-02	87-02	87-02	70-02	..	88-01	96-03	95-02	95-02	90-02	..	70-02	70-02
0800	Non-financial accounts by institutional sector (detailed)	00-02	gg 90-	93-00	80-02	..	78-01	95-02	95-01	..	95-02	93-02	..	..	87-02	..
0900	Detailed tax and social contribution receipts by type and by subsector	..	70-03	93-01	95-03	97-02	95-02	95-02	95-02	93-02	95-02	93-03	..	..	70-02	70-03
1100	Expenditure of General Government by function	~~70-01~~	90-03	93-01	95-03	97-02	90-02	..	90-02	..	99-01	95-02	..	..	90-02	..
1400	Fixed assets for total economy by industry, A17 and by product, Pi3	~~77,87~~	..	..	..	..	..	..	..	..	..	95-00	..	..	..	..

.. Table not transmitted / data not available

.. t 03 Table not transmitted but derived from table 03

95-02 No detailed breakdown

It should be aknowledged that improvements have been achieved in terms of completeness, timeliness and, to a certain extent, in length of times series. Nevertheless, there is still a significant lack of data for the tables 0119, 0800 and 1400. It should be stressed that these data are of great interest to OECD economists. It is clear from the table that European countries are better at supplying the data quickly to the OECD.

3 Dissemination of data

6. Annual national accounts of OECD countries are published in two separate volumes:

a. Volume 1 "Main aggregates" provides the main aggregates of national accounts: GDP by expenditure, GDP by output, GDP by income, disposable income, saving and net lending, population and employment. It also includes comparative tables based on exchange rates and comparative tables based on purchasing power parities (PPPs), expressed in US dollars and indices. The content of Volume 1 corresponds to tables 0101 to 0112 of the national accounts questionnaire. It is available in paper and CD-ROM versions in January of each year. The latest edition, January 2004, covers the period 1991-2002. An electronic version is updated each quarter (first week of April, July and October) and is available free of charge on the Internet.

CONTENTS of National Accounts of OECD Countries, Volume 1

The paper publication is divided in the following four parts:

1. Main aggregates

Table 1. Gross domestic product: expenditure approach, current prices and 1995 prices.

Table 2. Gross domestic product: output approach, current prices and 1995 prices.

Table 3. Gross domestic product: income approach.

Table 4. Disposable income, saving and net lending.

Table 5. Population and employment in persons, national concept.

Table 6. Employment in persons and in full-time equivalents by industry, domestic concept.

2. Comparative tables based on exchange rates

- **Gross domestic product** – US dollars and indices
- **Household final consumption expenditure** – US dollars and indices

3. Comparative tables based on PPPs (purchasing power parities).

- **Gross domestic product** – US dollars and indices
- **Household final consumption expenditure** – US dollars and indices

4. Exchange rates, PPPs (Purchasing power parities), Population

b. Volume 2 "Detailed tables" provides, in addition to the main aggregates, the following subjects: value added, compensation, net taxes on production and imports, gross operating surplus, gross fixed capital formation and employment by industry; detailed final consumption expenditures (current and constant prices), simplified accounts for three main sectors (general government, corporations and households and non-profit institutions serving households). The content of Volume 2 corresponds to tables 0101 to 0119, 0200, 0301 to 0303, 0501 and 0502. It is available in paper and CD-ROM versions in July of each year. The latest edition, July 2004, covers the period 1991-2002 and includes provisional data for 2003. The CD-ROM covers, in addition, detailed non-financial accounts by institutional sectors (corresponding to table 0800 of the questionnaire): non-financial corporations, financial corporations, general government, central government, state government, local government, social security funds,

households and non-profit institutions serving households and the rest of the world. In the 2004 edition of volume 2, the base of constant prices has been changed from 1995 to 2000.

CONTENTS of National Accounts of OECD Countries, Volume 2

This paper publication is divided in the following 12 tables:

Detailed tables

Supplementary tables: Non-financial accounts by institutional sectors.

- Available only on CD-ROM.

7. This year 2004, two new volumes have been published:

- Volume 3 Financial accounts,

- Volume 4 General government accounts (including data on detailed taxes and social contribution receipts by type and by receiving sector, and government expenditures by function and by sector).

Details of the contents are explained in meeting session related to those subjects.

II. New features of the joint OECD-Eurostat national accounts questionnaire

8. Following the implementation of SNA93/ESA95, the OECD and Eurostat developped in 1999 a common questionnaire for quarterly and annual national accounts. After three years of experience a review of the questionnaire began in 2002 which has led to a revision. The general principles underlying the revision are harmonisation concerning both the concepts used in different tables and the coherence between different tables. It was also necessary to simplify as much as possible the structure of the questionnaire by merging tables referring to the same aggregates and by reducing the total number of tables to be transmitted. The numbering of the tables will be reconsidered at the end of the review exercice.

9. The purpose of this note is to inform Member countries of the proposed revisions of the questionnaire. The current situation and proposed changes are shown in the following tables (table 2 and table 3). The bulk of the proposed revisions to the tables can be divided into the following headings: reorganisation, suppression and extension.

1 Reorganisation of tables

10. Several of the tables 0101-0112 are merged:

- Tables 0104, 0105 and 0106 are integrated in table 0102. There is a new breakdown of GFCF by fixed non-financial assets AN_F6 (instead of products Pi6) as follow:

  - AN1114 Cultivated assets
  - AN11132 Other machinery and equipment
  - AN11131 Transport equipment
  - AN1111 Dwellings
  - AN1112 Other buildings and structures
  - AN112 Intangible fixed assets

  The existing Pi6 breakdown is:
  - Pi61 Products of agriculture, forestry, fisheries and aquaculture
  - Pi62 Metal products and machinery
  - Pi63 Transport equipment
  - Pi64 Housing
  - Pi65 Other constructions
  - Pi66 Other products

- Table 0108 is merged with table 0107.

- Table 0112 is integrated in table 0103.

2 Suppression and reduction of tables

- Tables 0113 to 0116 and 0118, which are reduced versions of current tables 3 and 5, are dropped.
- Table 0111 and 0303: Full time equivalent is dropped, only number of persons and number of hours worked are maintained.
- Table 0119 is dropped.

Table 2

Correspondence table

Questionnaire ESA 95 Annual tables Current version		Questionnaire ESA 95 Annual tables New proposal - May 2004	
Table	Title	Table	Title
0101	Gross value added at basic prices and gross domestic product at market prices	0101	Gross value added at basic prices and gross domestic product at market prices
0102	Gross domestic product (expenditure side)	0102	Gross domestic product (expenditure side): final consumption breakdown, gross capital formation breakdown, exports and imports of goods and services
0103	Gross domestic product (income side)	0103	Gross domestic product (income side): compensation of employees breakdown
0104	Final consumption		
0105	Gross capital formation		
0106	Exports and imports of goods (fob) and services		
0107	Disposable income	0107	Disposable income, saving and net lending/borrowing
0108	Saving and net lending/borrowing		
0109	Real disposable income	0109	Real disposable income
0110	Population and Employment	0110	Population and Employment
0111	Employment and full-time equivalents by industry	0111	Employment by industry
0112	Compensation of employees by industry		dropped
0113	Gross value added in A17 breakdown		dropped
0114	Employment by industry in A17 breakdown		dropped
0115	Compensation of employees by industry in A17 breakdown		dropped
0116	Final consumption expenditure of households by purpose (COICOP)		dropped
0117	Final consumption expenditure of households by durability	0117	Final consumption expenditure of households by durability
0118	Gross operating surplus by industry in A17 breakdown		dropped
0119	Simplified non-financial accounts by institutional sector		dropped
0120	Exports of goods (fob) and services by Member States of the EU/third countries	0120	Exports of goods (fob) and services by Member States of the EU/third countries
0121	Imports of goods (fob) and services by Member States of the EU/third countries	0121	Imports of goods (fob) and services by Member States of the EU/third countries
0200	Main aggregates of General Government	0200	Main aggregates of General Government
0301	Value added and its components	0301	Output and its components
0302	Capital formation	0302	Capital formation
0303	Labour input	0303	Labour input
0401	Exports of goods (fob) and services by Member States of the EU/third countries		
0402	Imports of goods (fob) and services by Member States of the EU/third countries		
0501	Final consumption expenditure of households by purpose	0501	Final consumption expenditure of households by purpose
0502	Final consumption expenditure of households	0502	Final consumption expenditure of households
0601	Financial accounts by sector (transactions), consolidated	610	Financial accounts by sector (transactions), consolidated
		0611	Other changes in volumes accounts, consolidated
0602	Financial accounts by sector (transactions), non-consolidated	0612	Revaluation accounts, consolidated
0603	Additional table - Revaluation account (abstract), consolidated	0620	Financial accounts by sector (transactions), non-consolidated
		0621	Other changes in volumes accounts, non-consolidated
0604	Additional table - Revaluation account (abstract), non-consolidated	0622	Revaluation accounts, non-consolidated
		0625	Financial accounts by sector (transactions) including counterpart information, non-consolidated
0701	Balance sheets for financial assets and liabilities (stocks), consolidated	0710	Balance sheets for financial assets and liabilities (stocks), consolidated
0702	Balance sheets for financial assets and liabilities (stocks), non-consolidated	0720	Balance sheets for financial assets and liabilities (stocks), non-consolidated
		0725	Balance sheets for financial assets and liabilities (stocks) including counterpart information, non-consolidated
0800	Non-financial accounts by institutional sector	0800	Non-financial accounts by institutional sector (detailed)
0900	Detailed tax and social contribution receipts by type of tax or social contribution and by receiving subsector	0900	Detailed tax and social contribution receipts by type of tax or social contribution and by receiving subsector
1000	Tables by industry, A17 and by region (NUTS II)	1000	Tables by industry, A6 and by region (NUTS II)
1100	Expenditure of General Government by function	1100	Expenditure of General Government by function
1200	Tables by industry, A3 and by region (NUTS II)	1200	Tables by industry, A6 and by region (NUTS III)
1300	Households accounts by region (NUTS II)	1300	Households accounts by region (NUTS II)
1400	Fixed assets for total economy by industry, A17 and by product, Pi3		
1500	Supply table at basic prices, including a transformation into purchasers' prices, n = 60, m = 60	1500	Supply table at basic prices, including a transformation into purchasers' prices, n = 60, m = 60
1600	Use table at purchasers' prices, n = 60, m = 60	1600	Use table at purchasers' prices, n = 60, m = 60
1700	Symmetric input-output table at basic prices (product by product), n = 60, five yearly	1700	Symmetric input-output table at basic prices (product by product), n = 60, five yearly
1800	Symmetric input-output table for domestic output (product by product), n = 60, five yearly	1800	Symmetric input-output table for domestic output (product by product), n = 60, five yearly
1900	Symmetric input-output table for imports (product by product), m = 60, five yearly	1900	Symmetric input-output table for imports (product by product), m = 60, five yearly
2000	Cross-classification of fixed assets by industry, A31and by product, Pi3, five yearly	2000	Cross-classification of fixed assets by industry, A17 (A60 voluntary) and by asset AN_F6*, yearly
2100	Cross-classification of production account by industry, A60 and by sector, five yearly		dropped
2200	Cross-classification of gross fixed capital formation by industry, A31 and by product, P60, five yearly	2200	Cross-classification of gross fixed capital formation by industry, A17 (A60 voluntary) and by asset, AN_F6*, yearly
2300	Backward calculations		
2400	GDP weights Questionnaire (detailed breakdown of expenditure)	2400	GDP weights Questionnaire (detailed breakdown of expenditure)
		2600	Balance sheets for non-financial assets

In grey: tables not asked by OECD

Table 3

Questionnaire ESA 95
New set of ANNUAL tables [1]
Proposal - May 2004

Table	Title	breakdown	CUP current prices	COP constant prices
0101	Gross value added at basic prices and gross domestic product at market prices	A6*	x	x
0102	Gross domestic product (expenditure side); final consumption breakdown, gross capital formation breakdown, exports and imports of goods and services	AN_F6	x	x
0103	Gross domestic product (income side); compensation of employees breakdown		x	
0107	Disposable income, saving and net lending/borrowing		x	
0109	Real disposable income			(x)[2]
0110	Population and Employment			
0111	Employment by industry	A6*		
0117	Final consumption expenditure of households by durability		x	x
0120	Exports of goods (fob) and services by Member States of the EU/third countries		x	x
0121	Imports of goods (fob) and services by Member States of the EU/third countries		x	x
0200	Main aggregates of General Government		x	
0301	Output and its components	A31/A60	x	TRB1G, TRK1
0302	Capital formation	A31/A60 AN_F6*	x	x
0303	Labour input	A31/A60 Sector		
0501	Final consumption expenditure of households by purpose	COICOP 3 digit	x	x
0502	Final consumption expenditure of households		x	x
0610	Financial accounts by sector (transactions), consolidated		x	
0611	Other changes in volume accounts, consolidated		x	
0612	Revaluation acounts, consolidated		x	
0620	Financial accounts by sector (transactions), non-consolidated		x	
0621	Other changes in volume accounts, non-consolidated		x	
0622	Revaluation acounts, non-consolidated		x	
0625	Financial accounts by sector (transactions) including counterpart information, non-consolidated		x	
0710	Balance sheets for financial assets and liabilities (stocks), consolidated		x	
0720	Balance sheets for financial assets and liabilities (stocks), non-consolidated		x	
0725	Balance sheets for financial assets and liabilities (stocks) including counterpart information, non-consolidated		x	
0800	Non-financial accounts by institutional sector (detailed)		x	
0900	Detailed tax and social contribution receipts by type of tax or social contribution and by receiving subsector		x	
1000	Tables by industry, A6 and by region (NUTS II)	A6	x	
1100	Expenditure of General Government by function	COFOG	x	
1200	Tables by industry, A3 and by region (NUTS III)	A3	x	
1300	Households accounts by region (NUTS II)		x	
1500	Supply table at basic prices, including a transformation into purchasers' prices, A60 x P60	A60, P60	x	x
1600	Use table at purchasers' prices, A60 x P60	A60, P60	x	x
1700	Symmetric input-output table at basic prices (product by product), P60 x P60, five yearly	P60, P60	x	
1800	Symmetric input-output table for domestic output (product by product), P60, five yearly	P60d, P60d	x	
1900	Symmetric input-output table for imports (product by product), m = 60, five yearly	P60i, P60i	x	
2000	Cross-classification of fixed assets by industry, A17 and by non-financial fixed asset, AN_F6*	A17 AN_F6*	(x)[3]	(x)[4]
2200	Cross-classification of gross fixed capital formation by industry, A17 and by non-financial fixed asset, AN_F6*	A17 AN_F6*	x	x
2400	GDP weights Questionnaire (detailed breakdown of expenditures)		x	
2600	Balance sheets for non-financial assets		x	

(1) including the five-yearly and biennial tables
(2) in real terms
(3) current replacement costs
(4) constant replacement costs
A6*: NACE A6 showing "manufacturing" separately

- Table 0800: the number of detailed transactions has been reduced from about 200 to 130. Namely, some details at the three digit level have been dropped. Moreover, the number of sectors has been changed: sub-divisions of sector S13 (general government) have been dropped since table 0200 "Main aggregates of general government" has been extended to the sub-sectors of general government (see below). The new table 0800 is attached in annex 1.

- Table 1400, which is redundant with the extension of table 2000, is dropped.

3 Extension of tables

- Tables 0101, 0103, 0111: insertion of a new 'of which' item: manufacturing in A6 breakdown.

- Table 0117, replacement: 4 durability categories (durable goods, semi-durable goods, non-durable goods, services) instead of 3 existing categories (durable goods, non-durable goods, services).

- Table 0200, new split: sub-sectors of general government (Central government, State government, Local government and Social security funds) in addition to general government.

- Tables 0301, 0302 and 0303: A60 breakdown (ISIC Rev.3 division) instead of A31 breakdown.

- Table 0302: gross fixed capital formation in construction is added.

- Table 0303: additional employment breakdown by sector: general government and other sectors (corporations and households and NPISH).

- Table 0501: full COICOP 3-digit for households (i.e. new details for communication and for education).

- Tables 06 and 07 "financial accounts and balance sheets for financial assets" (revisions have been covered in the the OECD Working Party on financial statistics which was held on 11-12 October 2004).

- Table 2000: new cross-classification of fixed assets by industry (A17 or A60) and by asset (AN_F6 augmented instead of Pi3). AN_F6 augmented includes a new breakdown of AN1132 "Metal products and machinery" and a new breakdown of AN112 "Intangible fixed assets" as follow:

  - AN1114 Cultivated assets
  - AN11132 Other machinery and equipment
  - AN111321 of which: Office machinery and hardware
  - AN111322 of which: Radio, TV and communication
  - AN11131 Transport equipment
  - AN1111 Dwellings
  - AN1112 Other buildings and structures
  - AN112 Intangible fixed assets
  - AN1122 of which: Software

- Table 2200: new cross-classification of gross fixed capital formation by industry (A17 or A60) and by asset (AN_F6 augmented instead of P60). The cross classification is the same as for table 2000 above. AN_F6 augmented is described above for table 2000.

New table 2600 on balance sheets for non-financial assets by sectors (attached in annex 2).

4 Additional OECD requirements

11. The revised OECD-Eurostat questionnaire does not meet all the OECD's needs for capital stock data. This is the subject of a separate paper *Additional OECD Requirements of Annual Capital Stock and Related Data* (STD/NAES(2003)24) which was presented at the meeting in 2003.

Recommendations

- **A special effort should be made to supply tables by institutional sectors (0119 and 0800), table on fixed assets by industry and by product (1400 or 2000), table on gross fixed capital formation (2200) and table on balance sheets for non-financial assets by institutional sectors (new 2600).**

- **Data should be transmitted to the OECD on the day the data are released by the Member country.**

- **European Member countries are asked to send the ESA95 questionnaire tables to both OECD and Eurostat at the same time using the same Email, with two different addresses, one for Eurostat, the other for OECD (sna.contact@oecd.org).**

ANNEX 1 – table 0800 A

Table 0800 A - Non-financial accounts by institutional sector

Transactions and Balancing items		Sectors													
		S.1	S.11	S.12	S.13	S.14/S.15	S.14	S.15	S.1N	S.2	S.21	S.211	S.2111	S.2112	S.212	S.22
I Production account/External account of goods and services		Total Economy	Non-financial corporations	Financial corporations	General government	Households + non profit instit. serving hholds	Households	Non profit instit. serving hholds	Not sectorized	Rest of the world	European Union	Member States of the EU	Members of the Monetary Union	Non-memb. of the Monetary Union	Institutions of the EU	Third countries and international organisations
Code	*Resources*															
P.1	Output	x	x	x	x	x	x	x								
P.11	- Market Output	x	x	x	x	x	x	x								
P.12	- Output for own final use	x	x	x	x	x	x	x								
P.13	- Other non-market output	x			x	x		x								
P.7	Imports of goods and services									x	x	x	x	x	x	x
P.71	- Imports of goods									x	x	x	x	x	x	x
P.72	- Imports of services									x	x	x	x	x	x	x
D.21 - D.31	Taxes less subsidies on products	x							x							
R1	Total resources	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Uses															
P.2	Intermediate Consumption	x	x	x	x	x	x	x								
P.6	Exports of goods and services									x	x	x	x	x	x	x
P.61	- Exports of goods									x	x	x	x	x	x	x
P.62	- Exports of services									x	x	x	x	x	x	x
B.1g	*Gross domestic product/Gross value added*	x	x	x	x	x	x	x	x							
B.11	*External balance of goods and services*									x	x	x	x	x	x	x
U1	Total uses	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
K.1	Consumption of fixed capital	x	x	x	x	x	x	x								
B.1n	Net domestic product/Net value added	x	x	x	x	x	x	x	x							

II.1.1 Generation of income account		Sectors													
		S.1	S.11	S.12	S.13	S.14/S.15	S.14	S.15	S.1N	S.2	S.21	S.211	S.2111	S.2112	S.212	S.22
	Resources															
B.1g	Gross domestic product/Gross value added	x	x	x	x	x	x	x	x							
D.3	Subsidies, received	x	x	x	x	x	x	x	x							
D.31	- Subsidies on products	x							x							
D.39	- Other subsidies on production	x	x	x	x	x	x	x								
R211	Total resources	x	x	x	x	x	x	x	x							
	Uses															
D.1	Compensation of employees	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.2	Taxes on production and imports, paid	x	x	x	x	x	x	x	x							
D.21	- Taxes on products	x							x							
D.29	- Other taxes on production	x	x	x	x	x	x	x								
B.2g	*Gross operating surplus/ Mixed income*	x	x	x	x	x	x	x	x							
B.3g	*Mixed income*	x				x	x									
U211	Total uses	x	x	x	x	x	x	x	x							

II.1.2 Allocation of primary income account		Sectors														
		S.1	S.11	S.12	S.13	S.14/S.15	S.14	S.15	S.1N	S.2	S.21	S.211	S.2111	S.2112	S.212	S.22
	Resources															
B.2g	Gross operating surplus/Mixed income	x	x	x	x	x	x	x	x							
B.3g	Mixed income	x				x	x									
D.1	Compensation of employees	x				x	x			x	x	x	x	x	x	x
D.11	Wages and salaries	x				x	x			x	x	x	x	x	x	x
D.2	Taxes on production and imports, received	x			x					x	x				x	
D.21	- Taxes on products	x			x					x	x				x	
D.211	- - Value added type taxes (VAT)	x			x					x	x				x	
D.212	- - taxes and duties on imports excluding VAT	x			x					x	x				x	
D.214	- - Taxes on products , except VAT and import taxes	x			x					x	x				x	
D.29	- Other taxes on production	x			x					x	x				x	
D.4	Property income	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.41	- Interest	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.42	- Distributed income of corporations	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.43	- Reinvested earnings on direct foreign investment	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.44	- Property income attributed to insurance policy holders	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.45	- Rents	x	x	x	x	x	x	x								
R212	Total resources	x	x	x	x	x	x	x								
	Uses															
D.3	Subsidies, paid	x			x					x	x				x	
D.31	- Subsidies on products	x			x					x	x				x	
D.39	- Other subsidies on production	x			x					x	x				x	
D.4	Property income	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.41	- Interest	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.42	- Distributed income of corporations	x	x	x	x	x		x		x	x	x	x	x		x
D.43	- Reinvested earnings on direct foreign investment	x	x	x	x	x		x		x	x	x	x	x	x	x
D.44	- Property income attributed to insurance policy holders	x		x		x		x		x	x	x	x	x		x
D.45	- Rents	x	x	x	x	x	x	x								
B.5g	*Gross national income/Balance of primary income, gross*	x	x	x	x	x	x	x								
U212	Total uses	x	x	x	x	x	x	x								

II.2 Secondary distribution of income account		Sectors														
		S.1	S.11	S.12	S.13	S.14/S.15	S.14	S.15	S.1N	S.2	S.21	S.211	S.2111	S.2112	S.212	S.22
	Resources															
B.5g	Gross national income/Balance of primary income, gross	x	x	x	x	x	x	x								
D.5	Current taxes on income, wealth, etc	x			x					x	x	x	x	x		x
D.51	- Taxes on income	x			x					x	x	x	x	x		x
D.59	- Other current taxes	x			x					x	x	x	x	x		x

ANNEX 1 – table 0800 A (ctd)

Code	Item	S.1	S.11	S.12	S.13	S.14/S.15	S.14	S.15	S.1N	S.2	S.21	S.211	S.2111	S.2112	S212	S.22
D.6	Social contributions and benefits	x	x	x	x	x	x	x		x	x	x	x	x		x
D.61	- Social contributions	x	x	x	x	x	x	x		x	x	x	x	x		x
D.611	- - Actual social contributions	x	x	x	x	x	x	x								
D.612	- - Imputed social contributions	x	x	x	x	x	x	x								
D.62	- Social benefits other than social transfers in kind	x				x	x			x	x	x	x	x		x
D.63	- Social transfers in kind	x				x	x									
D.7	Other current transfers	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.71	- Net non-life insurance premiums	x		x						x	x	x	x	x		x
D.72	- Non-life insurance claims	x	x	x	x	x	x	x		x	x	x	x	x		x
D.73	- Current transfers within general government	x			x											
D.74	- Current international cooperation	x			x					x	x	x	x	x	x	x
D.75	- Miscellaneous current transfers	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.751	- - GNP based fourth own resource									x					x	
R22	Total resources	x	x	x	x	x	x	x								

Code	Item	S.1	S.11	S.12	S.13	S.14/S.15	S.14	S.15	S.1N	S.2	S.21	S.211	S.2111	S.2112	S212	S.22
	Uses															
D.5	Current taxes on income, wealth etc	x	x	x	x	x	x	x		x	x	x	x	x		x
D.51	- Taxes on income	x	x	x		x	x			x	x	x	x	x		x
D.59	- Other current taxes	x	x	x	x	x	x	x		x	x	x	x	x		x
D.6	Social contributions and benefits	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.61	- Social contributions	x				x	x			x	x	x	x	x	x	x
D.611	- - Actual social contributions	x				x	x									
D.612	- - Imputed social contributions	x				x	x									
D.62	- Social benefits other than social transfers in kind	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.63	- Social transfers in kind	x			x	x		x								
D.7	Other current transfers	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.71	- Net non-life insurance premiums	x	x	x	x	x	x	x		x	x	x	x	x		x
D.72	- Non-life insurance claims	x		x						x	x	x	x	x		x
D.73	- Current transfers within general government	x			x											
D.74	- Current international cooperation	x			x					x	x	x	x	x	x	x
D.75	- Miscellaneous current transfers	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.751	- - GNP based fourth own resource	x			x											
B.7g	Adjusted disposable income	x	x	x	x	x	x	x								
U22	Total uses	x	x	x	x	x	x	x								
- D.63	- (minus) Social transfers in kind	x			x	x		x								
B.6g	*Gross disposable income*	x	x	x	x	x	x	x								

II.4.1 Use of disposable income account

Code	Item	S.1	S.11	S.12	S.13	S.14/S.15	S.14	S.15	S.1N	S.2	S.21	S.211	S.2111	S.2112	S212	S.22
		Sectors														
	Resources															
B.6g	Gross disposable income	x	x	x	x	x	x	x								
D.8	Adj. for the change in net equity of households in pension funds	x				x	x			x	x	x	x	x		x
R241	Total resources	x	x	x	x	x	x	x								
	Uses															
P.3	Final consumption expenditure	x			x	x	x	x								
P.31	- Individual consumption expenditure	x			x	x	x	x								
P.32	- Collective consumption expenditure	x			x											
D.8	Adj. for the change in net equity of households in pension funds	x	x	x	x	x		x		x	x	x	x	x		x
B.8g	*Gross saving*	x	x	x	x	x	x	x								
B.12	*Current external balance*									x	x	x	x	x	x	x
U241	Total uses	x	x	x	x	x	x	x								

III.1.1 Change in net worth due to saving and capital transfers account

Code	Item	S.1	S.11	S.12	S.13	S.14/S.15	S.14	S.15	S.1N	S.2	S.21	S.211	S.2111	S.2112	S212	S.22
		Sectors														
	Changes in liabilities and net worth															
B.8g	Gross saving/Current external balance	x	x	x	x	x	x	x								
B.12	Current external balance									x	x	x	x	x	x	x
D.9	Capital transfers	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.91	- Capital taxes	x			x											
D.92	- Investment grants	x	x	x	x	x	x	x		x	x	x	x	x		x
D.99	- Other capital transfers	x	x	x	x	x	x	x		x	x	x	x	x	x	x
R311	Total change in liabilities and net worth	x	x	x	x	x	x	x		x	x	x	x	x	x	x
	Changes in assets															
D.9	Capital transfers	x	x	x	x	x	x	x		x	x	x	x	x	x	x
D.91	- Capital taxes	x	x	x		x	x	x		x	x	x	x	x		x
D.92	- Investment grants	x			x					x	x	x	x	x	x	x
D.99	- Other capital transfers	x	x	x	x	x	x	x		x	x	x	x	x	x	x
B.10.1	*Changes in net worth due to saving and capital transfers*	x	x	x	x	x	x	x		x	x	x	x	x	x	x
U311	Total changes in assets	x	x	x	x	x	x	x		x	x	x	x	x	x	x

III.1.2 Acquisitions of non-financial assets account

Code	Item	S.1	S.11	S.12	S.13	S.14/S.15	S.14	S.15	S.1N	S.2	S.21	S.211	S.2111	S.2112	S212	S.22
		Sectors														
	Changes in liabilities and net worth															
B.10.1	Changes in net worth due to saving and capital transfers	x	x	x	x	x	x	x		x	x	x	x	x	x	x
K.1	Consumption of fixed capital	x	x	x	x	x	x	x								
R312	Total change in liabilities and net worth	x	x	x	x	x	x	x		x	x	x	x	x	x	x
	Changes in assets															
P.5	Gross capital formation	x	x	x	x	x	x	x								
P.51	- Gross fixed capital formation	x	x	x	x	x	x	x								
P.52	- Changes in inventories	x	x	x	x	x	x	x								
P.53	- Acquisitions less disposals of valuables	x	x	x	x	x	x	x								
K.2	Acqu.less disposals of non-produced non financial assets	x	x	x	x	x	x	x		x	x	x	x	x	x	x
B.9	*Net lending (+)/Net borrowing (-)*	x	x	x	x	x	x	x		x	x	x	x	x	x	x
U312	Total changes in assets	x	x	x	x	x	x	x		x	x	x	x	x	x	x
DB.9	Discrepancy with net lending / net borrowing of financial accounts	x	x	x	x	x	x	x		x	x	x	x	x	x	x

x = required

[shaded] = non relevant cells

ANNEX 2

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

country:
stocks: STAN_N
unit: MIO NAC
prices: CURC
year: 1995

Sectors / Non-financial assets	Asset code	Total economy	Non-financial corporations	Financial corporations	General government	Households and non-profit institutions serving households
code of sectors		SES1	SES11	SES12	SES13	SES14+SES15
NON-FINANCIAL ASSETS	STAN					
Produced assets	STAN1					
Fixed assets	***STAN11***					
Tangible fixed assets	STAN111					
Dwellings	*STAN1111*					
Other buildings and structures	*STAN1112*					
Non-residential buildings	STAN11121					
Other structures	STAN11122					
Machinery and equipment	*STAN1113*					
Cultivated assets	*STAN1114*					
Intangible fixed assets	STAN112					
Mineral exploration	*STAN1121*					
Computer software	*STAN1122*					
Entertainment, literary or artistic originals	*STAN1123*					
Other intangible fixed assets	*STAN1129*					
Inventories	***STAN12***					
Valuables	***STAN13***					
Non-produced assets	STAN2					
Tangible non-produced assets	***STAN21***					
Land	STAN211					
Subsoil assets	STAN212					
Non-cultivated biological resources and Water resources	STAN213+STAN214					
Intangible non-produced assets	***STAN22***					

For Official Use **STD/NAES(2004)19**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development **11-Oct-2004**

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)19
For Official Use

National Accounts and Economic Statistics

THE QUARTERLY NATIONAL ACCOUNTS (QNA) DATABASE

This document has been prepared b y Micheline HARARY - OECD (Statistics Directorate)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12 - 15 October 2004

Tour Europe, Paris La Defense
Beginning at 9:30 a.m. on the first day

For further information please contact:
Micheline Harary
E-mail: micheline.harary@oecd.org

JT00171221

English - Or. English

THE QUARTERLY NATIONAL ACCOUNTS (QNA) DATABASE

1. OECD maintains an internal database containing most of the quarterly national accounts produced by the OECD Member countries that publish quarterly accounts. Not all countries compile a full set of quarterly accounts. Thus the content of the database differs from one country to another. The requirements of internal users of the quarterly national accounts database are: full scope of what is published by the NSI, accuracy, comparability and timeliness. Therefore, the set of tables of the OECD-Eurostat common questionnaire are supplemented by other data published by the NSIs.

2. The content of the database includes when available: GDP expenditure and output approach (current and constant prices), GDP income approach, Financing of accumulation, GFCF (current and constant prices) broken down by type of product, by institutional sector and by type of asset, Disposable income and Real disposable income components, Household final expenditures (current and constant prices) broken down by type of product, Institutional Sectors accounts and specific accounts for some countries.

3. For European countries that respond to the ESA 95 questionnaire on quarterly national accounts, data are extracted from responses to the questionnaire as well as from national files or databases. As in the case of annual accounts, it is therefore recommended for European countries to send the tables to the OECD and Eurostat using the same Email, with two different addresses, one in Eurostat, the other in OECD (SNA.Contact@OECD.org). For non-EU other countries, data are either taken directly from national databases or from national files sent to the OECD, without using a specific questionnaire.

4. A selection of series from this database is published in the OECD Quarterly National Accounts publication. The electronic publication is released on the same day as the paper publication, at approximately T+120 days. For example, the paper and electronic versions of publication 2003/3 will be released on November 3, 2004. Except for the US (for which 2004Q3 will be available), the data will extend up to 2004Q2. The timeliness of the publication is governed by the need to calculate OECD totals and the timeliness of the least timely countries.

5. The country data on electronic QNA publication, available on OLIS and on Source OECD, is updated in the first week of each month. An extract of the publication, covering the main components of GDP by expenditure, at current and constant prices, is available on the OECD web page, and a table showing quarterly growth rates for GDP at constant prices is also available on the web and updated weekly.

6. OECD publishes a news release on quarterly GDP volume growth for the OECD area.

Data transmission to the OECD

7. All countries now announce in advance the release day for their quarterly national accounts. Given the requirements of the users, it is recommended that countries should send their data (questionnaire tables and national files) to the OECD as early as possible on the release day of their QNA. There has been an improvement in the transmission of data in the last twelve months and most countries now send their data on their release day. Two countries (Czech Republic and Finland) had a small problem for Q2

2004 and sent their data with a small delay. Table 1 below shows some characteristics of data release and data transmission for OECD Member countries.

TABLE 1 - DATA RELEASE AND DATA TRANSMISSION

	First release of Q2 2004 - Number of days after the end of the quarter	Advanced release calendar available	National data sent to the OECD on the release day	National Accounts Questionnaire tables sent to the OECD on the release day
Australia	61	Yes	Yes	n.a.
Austria	88	Yes	n.a.	Yes
Belgium	68	Yes	Yes	Yes
Canada	60	Yes	D.A.	n.a.
Czech Republic	73	Yes	No	No
Denmark	57	Yes	Yes	Yes
Finland	70	Yes	D.A.	No
France	50	Yes	D.A.	Yes
Germany	54	Yes	Yes	Yes
Greece	70	Yes	n.a.	Yes
Hungary	68	Yes	n.a.	Yes
Iceland	73	Yes	n.a.	Yes
Ireland	90	Yes(NLT)	Yes	Yes
Italy	70	Yes	Yes	Yes
Japan	42	Yes	D.A.	n.a.
Korea	53	Yes(NLT)	Yes	n.a.
Luxembourg	n.a.	n.a.	n.a.	n.a.
Mexico	47	Yes	Yes	n.a.
Netherlands	42	Yes	Yes	Yes
New Zealand	84	Yes	D.A.	n.a.
Norway	67	Yes	Yes	Yes
Poland	69	Yes	n.a.	Yes
Portugal	69	Yes	n.a.	Yes
Slovak Republic	70	Yes	Yes	Yes
Spain	66	Yes	Yes	Yes
Sweden	36	Yes	Yes	Yes
Switzerland	70	Yes	Yes	n.a.
Turkey	73	Yes	Yes	n.a.
United Kingdom	57	Yes	D.A.	No
United States	30	Yes	Yes	n.a.

Note: The number of days indicated for the first release of the quarter refers to the release of GDP and its components (expenditure or production approach, at constant prices), GDP flash estimates are not taken into account.

D.A. = Direct access by OECD to national database or through Internet; n.a. = not applicable; NLT = Not later than

Chained constant prices and seasonal adjustment practices

8. Over the last eight years, a number of OECD Member countries have implemented chain volume measures. This method of constructing constant prices gives better estimates of volume changes and was recommended in the 1993 SNA. Table 2 shows which countries are producing chained constant prices and what is planned by those who are using fixed constant prices.

9. Seasonally adjusted estimates are produced by the majority of countries. In most cases, the method used removes the impact of seasonal variations, but some countries also adjust for trading day variation and some others are planning to do so in the near future. Table 2 gives information on adjustment practices and countries' plans regarding the implementation of trading day adjustment.

10. Most countries making an adjustment for trading day variation do not force the adjusted quarterly data to agree with the annual accounts and allow the differences arising from the trading day adjustment to remain which results in two sets of annual accounts. The impact of trading day adjustment on the annual data, and hence differences between the two sets of annual accounts, is usually very or reasonably small, although it can be higher for a leap year which will be the case in 2004.

11. Some countries (in grey background), however, have chosen to force the sum of the quarterly adjusted estimates – trading day and seasonal combined - to be equal to the annual national accounts data : Australia (for the chain volume measures), Canada, United States and the United Kingdom.

Conclusion

- **Member countries are reminded that the principle governing the transmission of data is:** ***transmit data to OECD (and Eurostat) as early as possible on the release day of the data at national level.***

- **Overall there has been significant progress in the implementation of this principle, there was still a small problem for the latest quarter with Czech Republic and Finland.**

- **We note a significant movement towards the implementation of chain linking in QNA. Do Iceland, Ireland and Mexico confirm that they have still no plan to move to chain linking?**

- **Could countries which are not yet producing quarterly trading day adjusted data give us some indications about when they are planning to do so ?**

TABLE 2 - CHAINED CONSTANT PRICES AND SEASONAL ADJUSTMENT PRACTICES

(in grey, the four countries that force the sum of their trading day adjusted series to the annual gross value)

	Producing chained constant prices	Plans to disseminate chained constant prices	Seasonally adjusted estimates only	Seasonally and trading day adjusted estimates	Plans for trading day adjustment
Australia	Yes			Yes	
Austria		December 2004		Yes	
Belgium		December 2006		Yes	
Canada	Yes			Yes	
Czech Republic	Yes		Yes		
Denmark		July 2005	Yes		
Finland		February 2006		Yes	
France		May 2006[1]		Yes	
Germany		May 2005		Yes	
Greece	Yes		Yes		No
Hungary		2006		Yes[2]	
Iceland		No	No	No	No
Ireland			Yes		No
Italy		November 2005		Yes	
Japan		Autumn 2005		Yes[3]	
Korea				Yes	
Luxembourg	n.a.	January 2005	n.a.	n.a.	
Mexico		No	No	No	No
Netherlands	Yes			Yes	
New Zealand	Yes		Yes		No
Norway	Yes		Yes		
Poland	Yes[2]		Yes[2]		
Portugal	Yes		Yes		
Slovak Republic		Mars 2006	No	Yes[2]	
Spain		May 2005		Yes	
Sweden	Yes			Yes[2]	
Switzerland		2005	Yes	No[4]	No
Turkey		End 2004/2005	No	No	
United Kingdom	Yes			Yes	
United States	Yes			Yes	

[1] Experimental calculations

[2] For a small number of aggregates, not for the whole set of QNA

[3] Adjusted for leap year, no trading day adjustment found necessary

[4] Also adjusted for irregular variations

For Official Use **STD/NAES(2004)20**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

12-Oct-2004

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)20
For Official Use

National Accounts and Economic Statistics

THE NAWWE PROJECT: NATIONAL ACCOUNTS WORLD WIDE EXCHANGE

This document has been prepared by Charles ASPDEN - OECD (Statistics Directorate)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12-15 October 2004
Beginning at 9:30 a.m. on the first day

For further information please contact
Charles Aspden
E-mail: charles.aspden@oecd.org

JT00171345

English - Or. English

THE NAWWE PROJECT: NATIONAL ACCOUNTS WORLD WIDE EXCHANGE

Objective

1. The idea behind the NAWWE project is to use a web based mechanism for reporting an already internationally agreed set of national accounts data. The objective is to allow any user, in particular international organisations, to access directly a set of internationally comparable data. If all the involved international organisations agree to use this mechanism, it would reduce the reporting burden on member countries and improve the quality and timeliness of the data.

Benefits

2. The expected benefits from the country's viewpoint are:

- One key family (format) and one operation for reporting national accounts data (provided international organisations agree)
- Automated generation of data from national source databases, thus saving resources
- Built-in validation

3. Benefits from OECD's and other international organisations' viewpoint:

- Timely reporting
- Complete reporting
- No code misinterpretations

Data contents

4. NAWWE is based on the common questionnaire agreed by the OECD and Eurostat for the collection of national accounts data. The questionnaire comprises a very detailed set of national accounts variables, as specified by the System of National Accounts 1993 (SNA93) and agreed by the two international agencies. These variables have been identified in an extensive set of Excel spreadsheets by means of a common code and specific presentation format.

5. The common Eurostat/OECD questionnaire is presently under revision. When the revised questionnaire is fixed, the NAWWE specifications will be adjusted accordingly.

The technical solution

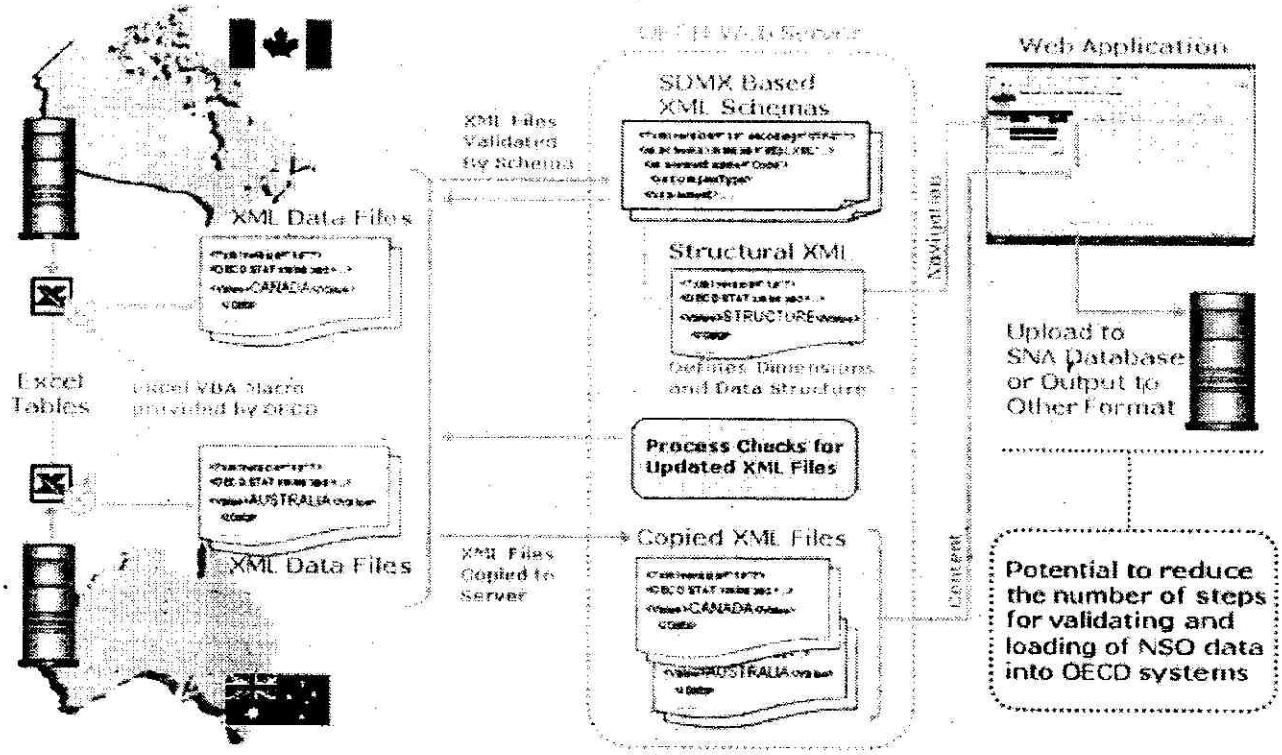
6. The present pilot project starts from a set of Excel tables which reflect exactly the Eurostat/OECD standard questionnaire. These tables are already produced, in many countries as a GESMES file, by national agencies for transmitting annual national accounts data to international

organisations. The files are transformed into XML files, conforming as closely as possible[1] with the SDMX-ML[2] specification. The business model entails countries posting their files on the web, in the agreed XML format; the OECD and Eurostat (and possibly other organizations needing these data) would extract their data from these files.

7. Eventually it is envisaged that NSOs could make the XML files available directly from their on-line databases as soon as the data are released.

8. In the short term, it is only proposed to use NAWWE for annual data, but OECD intends to extend it to quarterly national accounts later.

9. The OECD has set up a demonstration model of this kind of data extraction with three piloting member countries, Australia, Canada, and France. For reference see http://stats.oecd.org/nawwe/. The architecture of the present pilot system is summarised in this picture:



Planned future steps

[1] It has been necessary to add to the SDMX-ML v/1.0, as the standard does not yet allow for hierarchical variable (dimensions). Utilising hierarchical dimensions allows for full verification of data to be transmitted.

[2] Statistical Data and Metadata Exchange (SDMX) is a standardisation initiative sponsored by 7 international organisations, aiming at easing the exchange of such data among countries and international organisations. The SDMX-ML is a XML standard format for exchange of statistical data and metadata which was agreed and published on 30 September 2004. See www.sdmx.org where version 1.0 of the standard is published

Autumn 2004	Bring the NAWWE XML formats in line as much as possible with the SDMX-ML standards, creating Key Family[3] for National Accounts
Autumn 2004	Solicit input from NSOs and other regional and international organisations.
Late 2004	Adapt to new Eurostat/OECD National Accounts questionnaire[4]
Late 2004	Implement all national accounts tables; issue second draft of Key Family for full set of national accounts
Beginning 2005	Move on towards full scale implementation by OECD and, hopefully, other international organisations, proposing that all countries who so wish may use the NAWWE reporting mechanism
Mid 2005	Implement SDMX-ML v/2
End 2005	Full scale implementation of NAWWE

[3] The Key Family consists of a structure definition message, including code lists, and a compact data carrying message

[4] Provided this has been fixed

For Official Use **STD/NAES(2004)21**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development **07-Oct-2004**

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)21
For Official Use

National Accounts and Economic Statistics

LESSONS FROM THE UK ATKINSON REVIEW

This paper has been prepared by François LEQUILLER - OECD (Statistics Directorate)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12 - 15 October 2004
Tour Europe, Paris La Defense

Beginning at 9:30 a.m. on the first day

For further information please contact:
François Lequiller
E-mail: francois.lequiller@oecd.org

JT00170971

English - Or. English

LESSONS FROM THE UK ATKINSON REVIEW

The OECD has invited Tony Atkinson to present to the OECD Working Party on National Accounts the report of the panel that he has chaired regarding the measurement of the output of the non-market sector in the UK.

There are four reasons for this invitation:

(1) the United Kingdom's national accounts have been clearly leading other countries in implementing "output based" measures of the output of the non market sector, and their experience, whatever difficult, is extremely interesting to other countries which are placed in exactly the same situation as our UK colleagues in this extremely ambitious task of measuring the output of the non market sector;

(2) the quality of the report (still interim) which covers with great clarity all the aspects of this very difficult issue, including the discussion of international guidelines;

(3) the implications of this debate regarding the international comparability of the data, which is obviously of major concern to OECD-STD, whose business is to make sure that GDP and productivity growth between countries is comparable;

(4) the opportunity opened by the review of the SNA to use the findings and proposals of this report to improve the SNA, or its implementation guide, regarding the measurement of the output of the non market sector.

The present paper proposes a set of recommendations that can be extrapolated to other countries, based on the lessons of the UK experience.

They are submitted to the delegates of the WPNA for decision.

1. The objective should remain "output based" indicators

1. The UK has been one of the countries which have implemented the most the preference for "output based" indicators that is recommended by international guidelines (SNA and Eurostat's Handbook on price and volume measurement). Two-third of the value added of the government sector is compiled by the UK ONS using "output based" indicators. This is significantly more than any other OECD country. Contrary to expectations, rather than raising the measure of productivity of the government sector, this new measure has contributed to a decrease of measured productivity, raising questions about the reliability of the output and input measures.

2. Given general interest in public service output and productivity figures, the UK National Statistician set up an independent review to advise him on output measurement for the National Accounts. After re-examining the fundamental issues and the purpose of the National Accounts, the Atkinson Review has confirmed the desirability of the "output" approach. Its Interim Report proposes conditions to ensure that measures used in the National Accounts do indeed measure "output". It proposes a set of principles to

this end. One of these is confirmation of the SNA doctrine that quality change has to be taken into account.

***Recommendation 1**: the objectives of national accounts should remain the construction of good "output based" indicators for the measurement of the volume of general government output. However, output based indicators are not, per se, superior to input based indicators. One essential condition is that the "output based" indicator is sufficiently quality adjusted.*

2. Cooperation with relevant ministerial departments

3. The UK experience has shown that the quality of the output based indicators depends heavily on the cooperation with appropriate government departments, which should be aware of the use of their data in the calculation of GDP and, ideally, accept ownership of these numbers. Education is a good example – though not the only one – where defining output is not straightforward, and where engagement with practitioners is important.

***Recommendation 2:** National accountants should publicize openly the methods used to compile their non market output and discuss them specifically with the ministerial departments in charge of the corresponding non market services. The objective is that the ministerial departments participate in this compilation and are able to understand and corroborate the results, particularly as regards achieving complete coverage of government outputs and inputs and corroboration of the resulting productivity movements.*

***Recommendation 3:** Education represents a very large part of the non market sector and, at the same time, is one of the more difficult areas because of the difficulty to quantify all the dimensions of the quality of the output. The OECD should organize an international conference on the aggregate measurement of education output, bringing together national accountants and experts on education.*

3. International comparability of growth and productivity is at stake

4. The UK data shows that, if an input based method had been continued past 1998 in the place of the output based methods implemented since this date, the UK GDP growth would have been higher by 0.5% per year during the last five years.[1] This illustrates that there is probably a major comparability issue between OECD countries stemming from the measurement of non market output. First, one can therefore consider that it is safer for analysts to compare growth and productivity excluding the non market sector. This means that users should have easier access to international data on the market sector, separated from the market sector. Second, more should be done to analyze the impact of differing methods on the comparability of volume growth total non market output (and GDP).

***Recommendation 4:** international data on goods and services accounts should separate the market sector from the non market sector. The OECD should analyze and propose a classification derived from the existing classification that would approximate the market sector, and promote the incorporation of this classification in its database.*

***Recommendation 5:** the OECD should try to measure the impact of differing methods on the measurement of total non market output, based on partnership with volunteer countries.*

4. International manuals could be upgraded

5. The Atkinson report and the Eurostat Handbook on Price and Volume indices, sets series of principles, which can apply to all countries. These principles could form the basis of a partial redrafting of

the SNA paragraphs 16-133 to 16-141, and /or form the basis of a specific chapter of an implementation guide to the new SNA.

6. In particular,

- The concepts (and links between them) of input / activity / output / outcome could be better explained in the SNA.
- The objective should be to measure output from government spending in terms of its incremental contribution to individual or collective welfare, in the same way as market output.
- Criteria should be described for the implementation of an output measure: (a) it should cover the full range of services for that functional area, (ii) it should make allowance for quality change, (iii) the effects of its introduction have been tested by the service, (iv) the context in which they will be published has been fully assessed, in particular the implied productivity measures.
- The measurements of inputs should be as comprehensive as possible and should include capital services. This implies a change in the SNA regarding the measurement of non market output at current price, which should be extended to include the opportunity cost of the capital employed. This issue is specifically discussed in the Canberra II group.
- The value of the non market output should be adjusted for quality; for each service, explicit consideration should be given to the incorporation of quality change as an element of value added; for each spending function, consideration should be given to the extent to which the quality change is captured by the changing activity mix, and to the way in which output measures of government should be adjusted for increased real value in an economy with rising real GDP.

Recommendation 6: *the WPNA recommends that the ISWGNA considers the principles set in the Atkinson Interim Report and the Eurostat Manual on Prices and Volume as valuable inputs for the redrafting of paragraphs 16.133 to 16.141 of the SNA, or for inclusion in an implementation guide of the new SNA. This is not a change to the SNA. It is simply a clarification setting the conditions of good output based indicators.*

5. Users should be able to derive productivity based on alternative input measures

7. As extremely clearly stated in the Atkinson report, it is as much important to measure well inputs as to measure well output to obtain a reliable productivity number. The definition of inputs in the SNA is dependant on the classification of expenditures between current and capital. Some expenditures that are classified as current in the SNA can be considered capital by productivity analysts. One important example is training. In the current SNA, an increase of expenditures in the training of civil servants will appear as an increase of the input in the period the training takes place, while its effects take place long after. Associated with an output based measure of output, this inevitably creates an unwelcome decrease in productivity during the training period. For productivity analysis, it would be better to assign training costs to the whole period during which treat training expenditures will affect output. This means treating training as capital input. Such a change has been rejected by the ISWGNA, because of the consequence that such a change would have on the whole sequence of accounts. However, some progress could be made without introducing this change. The simple fact that training costs would appear as a separate item in the classification of the SNA would allow users to derive an alternative measure of productivity, without affecting the framework of the SNA.

Recommendation 7. *Training costs should appear specifically in the SNA classifications, allowing users to compile alternative measures, as if training was of a capital nature.*

For Official Use **STD/NAES(2004)6**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

22-Sep-2004

English - Or. English

STATISTICS DIRECTORATE

Cancels & replaces the same document of 21 September 2004

National Accounts and Economic Statistics

USING NATIONAL ACCOUNTS DATA FOR PRODUCTIVITY ANALYSIS

This document has been prepared by François Lequiller - OECD (Statistics Directorate)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12 - 15 October 2004

Tour Europe - Paris La Defense
Beginning at 9:30 a.m. on the first day

For further information please contact:
François Lequiller
E-mail: francois.lequiller@oecd.org

JT00169760

USING NATIONAL ACCOUNTS DATA FOR PRODUCTIVITY ANALYSIS

This paper is submitted to the OECD National Accounts Working Group (NAWG) for decision. Its objective is to promote the use of national accounts data on labour input in order to improve the comparability of the statistical measure of the *level* of labour productivity between OECD countries. The paper first proposes recommendations regarding the transmission to OECD of more comparable data. Then it describes a model questionnaire which will be disseminated to countries to improve the ability of users to make a judgment on the international comparability of these data.

I. The OECD project on productivity comparisons

1. More and more analysts try to compare productivity between countries. The OECD has and continues to devote numerous studies in this field [1], including a special study on measurement issues [2]. Two variables are under the scrutiny of analysts: (1) labor productivity, (2) multi-factor productivity. The present memo will focus on the first one. Two types of international comparisons of labour productivity can be done: compare labour productivity *growth* or compare labour productivity *levels*. It is easier to compare productivity growth between countries than productivity levels. In particular, the comparison of growth rates does not need to use Purchasing Power Parities (PPPs) while the comparison of levels does (GDP, the numerator of the ratio, has to be deflated by PPPs). PPPs, as many statistics, are affected by a certain degree of incertitude[1].

2. The present memo will however focus on the problems linked to the comparability of labour productivity *levels*, and, in this context, on the measurement of the denominator of this ratio, which is the measure of labour input. Indeed, the comparison of levels, despite its inherent difficulty, is an unavoidable objective for an international organization such as the OECD. Also other international organizations, such as the European Commission, make a heavy use of the comparison of productivity *levels*. The EU has even set, as an official objective for its member countries, to reach the level of labour productivity of the US in 2010.

3. The OECD disseminates a small database comparing productivity levels, accessible on the OECD Productivity site: http://www.oecd.org/statistics/productivity. This database shows for a given year (2002 currently) the decomposition of GDP per capita into various components, including labour productivity, expressed as a percentage of US levels[2].

---

[1] PPPs imply comparing international price levels which is more difficult than comparing price changes. Also, the sample used in PPP compilations is small compared to samples used in standard national price indices. These limitations lead to recommend avoiding using PPP deflated data in time series. The OECD recommends to users willing to have both levels and time series, to use one single year of PPPs and to benchmark the time series using national volume series to this single year in level. This generates data that are analytically better in terms of homogeneity in time (see [3]).

[2] This presentation as US = 100 is standard presentation in the OECD.

Table 1: extract of OECD productivity level database (3 September 2004)

	GDP per head of population (as % of US)	GDP per hour worked (as % of US)
	(1)	(7)
Australia	76	77
Austria	80	88
Belgium	78	108
Canada	85	85
Czech Republic	44	40
Denmark	83	94
Finland	75	82
France	77	113
Germany	75	93
Greece	49	65
Hungary	40	50
Iceland	79	70
Ireland	89	105
Italy	75	94
Japan	74	71
Korea	48	42
Luxembourg	141	115
Mexico	26	30
Netherlands	82	102
New Zealand	61	62
Norway	103	125
Poland	29	35
Portugal	50	53
Slovak Republic	36	40
Spain	62	74
Sweden	74	86
Switzerland (1)	82	84
Turkey (1)	17	26
United Kingdom	74	79
United States	100	100
Euro-area	73	92
OEDD-Europe (19)	73	82
G7 countries	86	91
OECD (3)	75	76

Table 1 is an extract of this database. Among many results, it shows that the level of labour productivity (per hour worked) of the Euro-area is estimated as equal to 95% of the US, while Japan is at 72% of the US.

A decomposition of GDP per capita

Analysts try to understand the international differences in income produced (GDP per capita) using a decomposition in which labour productivity in one essential contribution. Analysts decompose GDP per capita in five elements: GDP/population = (GDP/total hours worked)(total hours worked/persons employed)*(persons employed/labour force)*(Labour force/working age population)*(working age population/population)*[3].

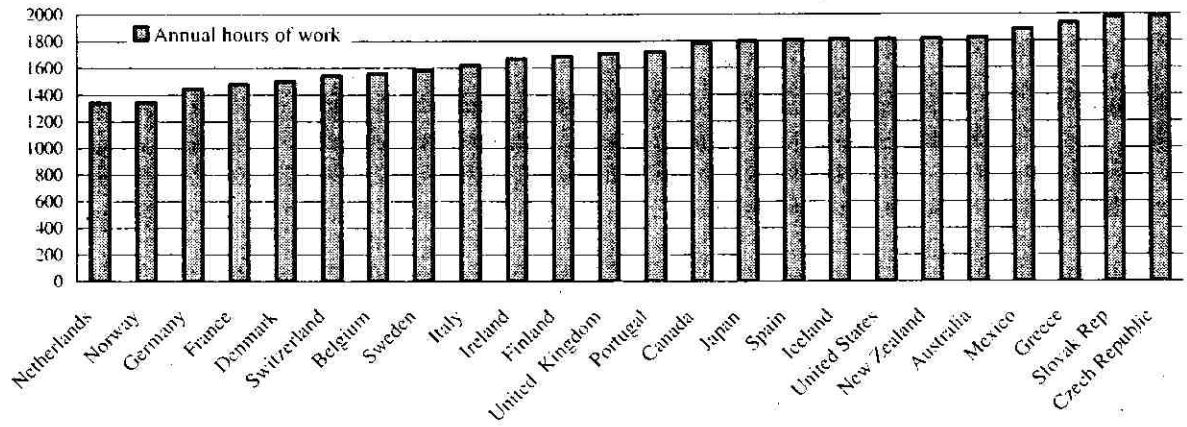
The first element is labour productivity. The second element is the average number of hours worked per person. The third element is closely related to the unemployment ratio. The fourth element is the labour force participation rate and the final element is a demographic effect. Each of these terms may explain the differences in GDP per capita between countries and are linked with specific policy issues.

[3] This decomposition omits the transition from the national concept to the domestic concept.

The focus of the present note is on GDP per hour worked

4. As seen in table 1 and in the box, the preferred definition of labour productivity is *GDP per hour worked*, rather than *GDP per person*. This focus on GDP per hour work comes from the fact that there is a wide difference between OECD countries regarding the amount of annual hours worked per worker. The average US worker's annual hours is 1800. In the Czech Republic or in the Slovak Republic, annual hours worked reach nearly 2000 per year (+10% compared to the US), while in Germany or France it is only around 1450 (-20%). International comparisons of labour productivity would thus be incomplete if the amount of hours worked was not taken into account.

Figure 1. Average hours actually worked per person in employment per year, 2002



Source: Annual hours and Productivity databases.

5. The present memo will therefore focus on the measure of labour input in terms of *total hours worked*. This does not mean that GDP per hour worked is to be considered the ideal definition. First, productivity levels are affected by the composition of the work force. It is for example assumed that the relatively high level of labour productivity reached by some European countries, such as France, can be explained in part by the fact that the labour market excludes low skilled workers (which itself explains the high unemployment). In other words, France has a high labour productivity compared to the US partly because its work force primarily include high skilled workers. International comparisons of labor productivity would gain in using a measure that would take into account this different degree of qualification of the work force. This is still at the stage of research at the OECD.

6. Second, the use of total GDP as the numerator of the ratio is subject to controversy because it includes the non market sector, which is inherently difficult to measure in real terms, as there is, by construction, no price for the services produced by this sector. Recent studies have shown that differences in the statistical methods devised to estimate the real output of the non market sector can bias the results [4, 5]. Pending better comparability of the measurement of the non market sector, it would be more prudent to focus on the labour productivity of the market sector (also called "business sector"). However, it is not so easy in the SNA 93/ESA 95 framework to decompose national accounts data between the market sector and the non market sector. However, some approximation may be made to obtain, in practice, these concepts. The OECD National Accounts Working Group should consider whether it is possible to introduce this decomposition in the standard national accounts tables required at international level, making this international comparison of "business sectors" possible (see recommendation 2).

The use of consistent national accounts data

7. It is natural to consider that, as the numerator of this ratio, GDP, is the result the compilation of national accounts, the measurement of labour productivity is improved by using also a national accounts source to estimate the denominator of the ratio: *total hours worked.*

8. One obvious argument is, for example, that if national accounts adjust GDP for unobserved economy, it is necessary to use, in the denominator, a measure of hours worked which is also adjusted for unobserved economy. Another obvious argument is that GDP is based on a definition of the economic territory which is to be matched in the definition of the denominator. Only national accounts sources can achieve such consistencies.

Recommendation 1: It is preferable to use national accounts sources for the denominator of the measure of labour productivity, in order to ensure consistency with the numerator.

Recommendation 2: It would be useful that standard national accounts tables allow for the calculation, even approximately, of GDP and all other relevant variables for the market sector (also called "business sector"). A definition of the market sector and/or possible approximation should be proposed by the international organizations.

9. The objective of the present memo is to promote such a use of *national accounts* sources on labour input in the compilation of labour productivity measures. For the moment, the OECD database on productivity results from the combination of national accounts sources and labour statistics sources. The OECD is prepared to move to the exclusive use of national accounts sources. However, in order to achieve this objective, there are three conditions: (1) that complete national accounts data on labour input are compiled and transmitted to the OECD, in particular regarding total hours worked, (2) that they are comprehensive, when compared with labour force statistics, (3) that they are comparable between countries. These three conditions are discussed in the below sections.

II. Availability of national accounts data on hours worked

10. Table 2 shows the current availability of data at the OECD regarding employment and hours worked. In addition, in the second column, it indicates the type of the variable "employment": number of jobs or number of persons.

11. The table shows clearly that it is currently impossible at the OECD to derive a measure of productivity using uniquely national accounts figures because of the large number of countries that do not transmit the variable "total hours worked" to the OECD. While most countries do report employment data (column 1), only 8 countries out of 30 report total hours (column 3)[4]. This is most unfortunate considering that the SNA 93 itself considers "total hours as the preferred measure of labour inputs for the System" (paragraph 17.11).

12. There are probably three different situations explaining the absence of total hours in the national accounts tables reported to the OECD. The first one is the case of countries (such as France) which do compile these data but do not transmit the corresponding tables to the OECD. It is therefore a technicality for these countries to send these tables. The second one is the case of countries (those with an asterisk in column 3: Belgium, Japan, New Zealand, Poland, USA) which report hours worked but only for employees, and not for self-employed. These countries would need to extend their estimates of hours worked to cover self-employed. Many other countries have implemented such estimates, and it should be

[4] The table for transmission is the OECD/Eurostat table 0303, which is shown in Appendix 1.

possible for them to use similar methods. The third one is the case of countries that have not yet introduced hours worked in their national accounts. This could be due partly to the absence of sources on hours worked. However, this looks strange considering that nearly all OECD countries report average hours worked under the Labour Force Statistics program of the OECD (see appendix 2).

Table 2: availability of data on employment and hours worked in the national accounts

	NA employment Data for 2002 except when signaled	**Jobs/ Persons**	**Total Hours** Data for 2002 except when signaled
Australia	9206 (2001/2)	Persons	
Austria	4066	Jobs	
Belgium	4136	Persons	*
Canada	15678	Jobs	27882
Czech Republic	4765**	Persons	
Denmark	2782	Persons	3597
Finland	2359	Persons	4075
France	24887	Persons	
Germany	38671	Persons	55791
Greece	3924	Jobs	8192
Hungary	3870	Persons	7287
Iceland			
Ireland	1766	Persons	
Italy	24009	Persons	
Japan	65299	Jobs	*
Korea	22151	Persons	54605
Luxembourg	288	Persons	
Mexico	40117	Persons	
Netherlands	8349	Persons	
New Zealand	1876		*
Norway	2317	Persons	3145 (2001)
Poland	14590		*
Portugal	4923 (2000)	Persons	
Slovak Republic	2016	Persons	
Spain	16343	Persons	
Sweden	4353		6964 (2001)
Switzerland	4172	Persons	
Turkey			
United Kingdom	29526	Jobs	
United States	147721	Jobs	*

* total hours are compiled for employees but not for self-employed

** national concept

Recommendation 3: OECD countries should report systematically total hours worked for employees and self-employed in the format of the OECD/Eurostat

Questionnaire, table 0303. Countries unable to transmit these data should explain the reason why there are unable to do so.

Abandon the concept of full-time equivalent

The current table 0303 requests three measures of labour input: (1) in terms of persons, (2) in terms of full-time equivalent, (3) in terms of hours. The new table 0303, which will be implemented in 2005, abandons the measure in terms of full-time equivalent. This measure of labour input is inferior to the measure in terms of hours, and is not used by productivity analysts. It has been therefore dropped from the new table 0303[5].

13. As, for the moment, it is not in a position to use exclusively national accounts data to derive the measure of labour input, the OECD was therefore led to make use of sources originating directly from labour force statistics. At the present stage we generally use a combination of data in terms of employment from the national accounts, and of average hours originating from labour force statistics. The method is described in appendix 3. This allows us to make our own crude estimates of total hours. However, an estimate of total hours made directly by national experts remains preferable. First, it would certainly gain in terms of quality. Second, it is better that national experts control most of the parameters of the calculation of international relative labour productivities, considering the importance of this indicator for policy makers.

The issue of "jobs" versus "persons"

14. A full economic analysis of labour productivity implies a decomposition of total hours worked between the variable "employment" and the variable "average hours". In this context, labour market analysts tend to give priority to the concepts of "persons" and "hours worked per person" rather than to the concepts of "jobs" and "hours worked per jobs". The first set of concepts considers that a multiple job holder counts for one, while the second counts several units per individual.

15. Column 2 of Table 2 shows which set of concepts are used by countries. Most countries transmit to the OECD data in terms of *persons*[6]. Only 6 countries (Austria, Canada, Greece, Japan, UK, USA) transmit data in terms of *jobs*. It is important to note that the conceptual difference can have significant effects on the data. In the US, the rate of multiple job holders is more than 5%. Thus the variable "employment" expressed in terms of jobs is 5% larger than the one expressed in terms of persons.

16. The SNA seems to give priority to the concept of jobs on the concept of persons. Its paragraph 17.7 even says: "Employment does not enter into the System, but jobs do; a job is like a transaction, while an employed person is not". Such an anathema on indicators in terms of persons does not appear in the ESA 95, which, in addition, gives more precise definitions of employment.

17. It is true that "jobs" is a variable that has the good property of being additive, while "persons" is not always additive (a multiple job holder should not be counted several times in the context of statistics expressed in terms of persons. In industry statistics a multiple job holder should be affected to his primary

[5] Tables 1 already have already dropped the concept of FTE.

[6] Poland is still a case that needs further clarification: the figure in the table could be Full-Time Equivalent and not persons.

industry). However, and despite the SNA 93, analysts of labour market prefer to use the concepts of persons. As explained in the box of section 1 of the present paper, analysts decompose GDP per capita in four elements: GDP/population = (GDP/total hours worked)*(total hours worked/persons employed)*(persons employed/working age population)*(working age population/population). All these elements use the concept of persons and not the concept of jobs. In this context, the introduction of indicators based on the number of jobs rather than the number of persons complicates unduly the picture.

18. The preference to the use of statistics in terms of jobs or in terms of persons may also simply originate from the source data. Household surveys (such as the European Labour Force Survey in Europe, or the Current Population Survey-CPS-- in the USA) deliver statistics in terms of persons, because persons are interviewed. On the contrary, surveys of employers (such as the Current Employment Survey-CES-in the USA) deliver statistics in terms of jobs, because two employers will report twice the same person who has two jobs. Thus, the use of one or other concept in the national accounts could come from the type of data available in the country. However, our understanding is that most countries have both information, and can therefore pass, with more or less difficulties, from one type of data to the other. Therefore, we can propose the following recommendations.

Recommendation 4: SNA chapter 17 on "Population and labour inputs" should be amended to give more room to indicators in terms of persons. The ESA 95 chapter 11 on population and labour input could be used as a basis for a redrafting of the SNA.

Recommendation 5: The 6 OECD countries that report employment in terms of jobs should either move to statistics in terms of persons, or report, in addition to current data, statistics in terms of persons.

III. Comparability with labour force statistics[7]

19. The objective of the present paper is to promote the use of national accounts data for the measure of the denominator of labour productivity. At the same time, as employment is at the centre of preoccupation of all policy makers, statistics on employment are headline indicators in all countries. But these statistics are generally not the national accounts statistics. The increasing use of national accounts data on employment for the sake of international comparisons of labour productivity will therefore inevitably draw the attention to the difference between the two sets of data. These differences should be explained to make the national accounts sources fully convincing.

[7] This issue of comparability had been raised in an OECD paper of 1998 [8], and more recently in an Eurostat paper of October 2003 [10].

Table 3: comparison of national accounts employment, and OECD labour force statistics (source OECD databases, in 1000)

	Na employment Data for 2002 except when signaled	**Labour force statistics** Data for 2002 except when signaled	*% difference*
Australia	9206 (2001/2)	9,295	*-1.0*
Austria	4066	3,772	*7.8*
Belgium	4136	4,012	*3.1*
Canada	15678	15,466	*1.4*
Czech Republic	4765	4,796	*-0.6*
Denmark	2782	2,715	*2.5*
Finland	2359	2,393	*-1.4*
France	24887	24,601	*1.2*
Germany	38671	36,245	*6.7*
Greece	3924	3,949	*-0.6*
Hungary	3870	3,871	*0.0*
Iceland		157	
Ireland	1766	1,750	*0.9*
Italy	24009	21,922	*9.5*
Japan	65299	63,300	*3.2*
Korea	22151	22,169	*-0.1*
Luxembourg	288	288	*0.0*
Mexico	40117	39,265	*2.2*
Netherlands	8349	8,027	*4.0*
New Zealand	1876	1,885	*-0.5*
Norway	2317	2,286	*1.4*
Poland	14590	13,846	*5.4*
Portugal	4923 (2000)	5,115	
Slovak Republic	2016	2,141	*-5.8*
Spain	16343	16,260	*0.5*
Sweden	4353	4,244	*2.6*
Switzerland	4172	4,180	*-0.2*
Turkey		20,854	
United Kingdom	29526	28,415	*3.9*
United States	147721	137,963	*7.1*

Table 4: comparison of national accounts implicit annual average hours per worker and OECD labour force statistics average hours per worker (source OECD databases)

	NA Total Hours Data for 2002 except when signaled	**NA Implicit Average hours**	**Average hours/worker** Labour Force statistics	*% difference*
Canada	27882	1788.4	1731	*3.3%*
Denmark	3597	1293.0	1462	*-11.5%*
Finland	4075	1727.4	1727	*0%*
Germany	55791	1443	1443	*0%*
Greece	8192	2087.7	1928	*8.2%*
Hungary	7287	1882.9	1766	*6.6%*
Korea	54605	2465.1	2410	*2.3%*
Norway	3145 (2001)	1361.5	1342	*1.5%*
Sweden	6964 (2001)	1602.8	1581	*1.4%*

Table 3 illustrates the difference between the two sources regarding the number employed (persons/jobs, depending on country). As can be seen, except for a very small minority of countries, there are significant differences. There are very good reasons to explain these differences. Some of them are already known to us.

20. For example, the difference of 7% between the level of employment measured in the national accounts of the USA and the corresponding labour force statistics is partly explained by the fact that the labour force statistics presented here is in terms of persons while the national accounts data is in terms of jobs[8]. This is also true for Canada, and probably also Austria.

21. On the other hand, the major difference between the two sources for Italy originates most probably from the fact that national accounts are adjusted to reflect for unobserved economy while labour force statistics are not.

22. Table 4 illustrates the same type of difference but for the variable "average annual hours". By construction, the table is limited to the countries that report hours worked in the framework of national accounts. The column "Implicit national accounts average annual hours" has been compiled by dividing total hours by the number of employed. Significant differences appear, for example, for Denmark, Greece or Hungary.

These differences call for more detailed explanations.

23. Based on a pilot project with two countries (France and Canada), OECD and Eurostat intend to disseminate a common questionnaire trying to analyze these differences. The aim is to have, for each country, and for a given year, a table explaining (and giving figures on) the difference between the two statistics. This table should help users to understand and justify the adjustments made by national accountants. It is also expected that this information will help us verifying the international comparability of national accounts measures of labour input.

[8] OECD Labor Force Statistics for the US are based on the CPS (which measures persons), while national accounts are based on the CES (which measures jobs).

IV. From a pilot test to a questionnaire

24. Two countries, France and Canada, have accepted to participate in a pilot-test of explaining in detail the compilation of total hours worked in the framework of national accounts from original labour force statistics. This exercise has been conducted during a specific session of the Paris Group meeting of September 2004 (in Lisbon) [6, 7]. In addition, the USA has drafted a short document explaining the differences between the different sources on hours worked in the US.

Canada

25. Table 5 shows a simplified bridge table between the original labour force statistics and the national accounts data for Canada. The table distinguishes the two main elements of the compilation of total hours: (1) employment; (2) average annual hours worked. In Canada, the main source of the data for employment is the Labour Force Survey, which gives a number of 14 531 persons in 1999. Canadian national accountants modify it to express it in terms of jobs, which is the preferred SNA concept. This adds nearly 5% to the original data. Then they add an additional 1.1% to take into account territories that are not covered by the Labour Force Survey. Finally, they exclude a population considered as employed in the survey but not considered employed by national accountants (-3.8%).

26. Regarding hours worked, the main source in Canada is also the Labour Force Survey. The definition of hours worked in this survey is considered to match closely the SNA/ILO definition of hours worked (see SNA par. 17.11). Therefore, the only adjustment made by Canada to the survey's results consists in devising a method to extrapolate hours worked as reported in specific weeks of the month to other weeks of the month, taking into account civic and other holidays.

27. Canada does not introduce any specific adjustment regarding the unobserved economy.

28. The table ends with the calculation of total hours and the implicit global average annual hour. This implicit national accounts average annual hours worked is compared to the corresponding OECD Labour Force Statistics. In the case of Canada, the two figures are exactly equal, showing the close coordination between the compilers of the two sets of data.

Table 5: Canada, year 1999

I. Employment:

Number of employees and self-employed (official source: Labor Force Survey):	14531	
Adjustment to SNA concept of jobs:		
Addition of multiple job holders:	+708 (+4.9%)	
Inclusion of jobs in aboriginal reserves and military personnel:	+122 (+0.8%)	
Inclusion of jobs in Northern Territories and civil servants working outside Canada):		+47 (+0.3%)
Exclusion of unpaid absentee paid workers:	- 415 (-2.8%)	
Exclusion of self employed with zero hours worked	- 142 (-1.0%)	
Total NA employment in terms of jobs	14851	
(a) Of which employees	*13169*	
(b) Of which self-employed	*1682*	

II Annual hours worked per job

Employees	
LFS x 52 hours worked(persons)	1735.5
Adjustments to the SNA class of workers definition (persons) [9]	1827.5
Adjustments to the number of jobs	1774.6
Adjustments for LFS reference weeks (civic and other holidays)	
(c) CSNA annual hours worked	1756
Self-employed	
LFS x 52 hours worked (persons)	1989.1
Adjustments to the number of jobs and to the SNA concept	1974.4
Adjustments for LFS reference weeks (civic and other holidays)	1804.0
(d) CSNA annual hours worked	1784

III Unobserved economy ---

IV Total hours worked

Employees = (a) * (c)	23 125 384
Self employed = (b) * (d)	3 000 537
Total	26 125 921
Implicit annual hours worked per job	1759
Annual hours OECD Labour force statistics	1759

[9] The hours worked per employee is revised up when we move from the official LFS data to the number of persons as measured by the SNA because the former includes proprietors of incorporated business in its self-employed category while this population is move to the employee category in the SNA classification.

Table 6: France: Year 2001

I. Declared employees:0.0	
Number of persons (Census extrapolated by administrative sources):	22 740
(including employees of "Départements d'Outre Mer" :	434)
From national concept to domestic concept:	
Exclusion of residents working outside the economic territory:	-260 (-1.2%)
Inclusion of non residents working inside the economic territory:	+20 (+0.1%)
Inclusion of general conscription:	+10
Number of declared employees, domestic concept:	22 510
Calculation of theoretical total hours worked	
Number of employees in full-time equivalent	20 857
x Theoretical number of weeks worked during the year	44.31
x Theoretical number of hours per week	36.61
=	
Total number of theoretical hours worked[10]	33 866 000
Adjustments to theoretical number of hours worked	
Adjustment for temporary lay-offs	-14 000 (-0.04%)
Adjustments for strikes	-14 000 (-0.04%)
Adjustments for sickness leaves	-2 140 000 (-6.3%)
Total number of hours worked for employees	31 698 0000
II. Self employed	
Number of self-employed (including DOM)	2220
In terms of full-time equivalent	2168
Average annual hours worked (full time, adjusted for « overwork")	2193
Total number of hours worked for self employed	4 755 000
III Unobserved economy	
Number of unobserved persons (full time equivalent)	376
Average annual hours	1531
Total hours unobserved economy	576 000 (+1.6%)
IV Total economy	
Total number of workers (at full time equivalent)	23400
Total number of hours	37 029 000
Implicit annual hours worked by worker at full time	1582
Implicit annual hours worked by worker (excluding unobserved economy)	1474
OECD estimate (from labour force statistics)	1459
Difference	-1%

[10] The multiplication of the three above figures does not give the exact result, as this multiplication is done at a detailed level of industries.

France

29. Table 6 is the corresponding table for France. The table is somewhat more complex than for Canada as the method used in France distinguishes three domains: employees, self-employed, unobserved economy. Specific adjustments are made in each domain.

30. In France, priority is given to the data coming from administrative sources (benchmarked on Census). The Labour Force Survey is used only as a secondary source. The starting headline indicator for Labour Force Statistics on employees is based on Census extrapolated by administrative sources, resulting for the year 2001, in a number of 22 306 (thousands).

31. National accountants then introduce a series of adjustments to adapt this number to the definition of economic territory underlying GDP: inclusion of employees of the "départments d'outre mer" (+1.9%), exclusion of residents working outside the territory (Luxembourg, Germany, Switzerland), inclusion of an estimate of non residents working in the economic territory and of the non professional military (general conscription).

32. Regarding hours worked, the calculation is not directly based on the results of the Labour Force Survey, which is considered too volatile. The method is in four steps: (1) compile a figure for full-time equivalent employees, based on data on amount of partial time from surveys on employers; (2) calculate then a theoretical number of weeks worked, taking into account holidays and annual leaves, and a theoretical number of hours worked per week, based on surveys on employers (known to be biased towards legal hours); (3) derive a theoretical number of hours worked from these two first steps, (4) introduce adjustments to take into account sickness leaves, temporary lay-offs and strikes, and finally obtain an estimate of effective total hours worked for employees.

33. A similar method is used for self-employed. It includes a special adjustment for "overwork" of self-employed. France then makes an explicit estimate of the unobserved economy (+1.6%). Finally France delivers the total number of hours worked: 37 029 000.

USA

34. The document presenting the US case is available as appendix 4. For the moment, in the USA, the national accounts (BEA) only publishes estimates of hours worked for employees, and not for self-employed and unpaid family workers. Estimates of hours worked are the product of industry full-time and part-time employees, average weekly hours, 52 (number of weeks in a year), and the ratio of hours worked to hours paid. The BEA includes an estimate of employees not covered by the original labor force statistics monitored by the BLS and corresponding to the adjustment made for underreporting of wages and salaries.

35. For the moment, the situation for US data is the following: the BLS data on hours worked are more comprehensive than the national accounts data, because they include self-employed persons and unpaid family workers, but the BEA data includes an adjustment for underreporting which is not included in BLS data. BLS and BEA staff are discussing the possibilities of developing a measure which would combine those two elements.

Towards a general questionnaire

36. Based on this pilot test, OECD and Eurostat have prepared a general questionnaire, to which is attached a table illustrating the main differences for a given year. The two organisations intend to

disseminate this questionnaire to member countries in the autumn of 2004. The questionnaire is presented in the next pages.

Recommendation 7: national experts are requested to give their opinion on the principle and structure of the questionnaire and the attached table.

37. The pilot test has shown that one difficulty with the questionnaire is that it focuses on global economy totals while, in practice, countries methods of estimation are based on very detailed (industry * region) estimates. Nevertheless, it is hoped, that it will be possible for national experts to make an estimation of the different adjustments at the global level. This was possible in the case of France and Canada.

V. Questionnaire on the bridge table between labour force statistics and national accounts.

38. The proposed questionnaire is a semi-open questionnaire, which should be used in conjunction with a table including numbers (An Excel version of the table will be attached to the final questionnaire). The objective of the questionnaire/table is to explain in a reasonable detail the differences between (1) original sources on employment and on hours worked, and (2) national accounts figures. Priority should be given to the table containing numbers for a recent year. The table can and should be adapted to the specific situation of the country.

39. The original source should correspond in principle to the OECD Labour Force Statistics sources. If this source is not adapted, another one should be used. In principle, it should be a source made publicly available in the country.

Questionnaire

1. Part on Employment underlying GDP

Question 1.1: what is the main original source for employment in the national accounts (i.e: administrative source, Labour Force Survey, other)? Describe this source, its coverage, whether it is in terms of jobs or persons. Describe different sources if different sources are needed to evaluate different parts of the employed population, in particular, if necessary, differentiate sources between employees and self-employed.

Question 1.2: describe and evaluate possible adjustments made to pass from the concept of stocks (persons employed at given date) to the concept of flows (persons employed during the year).

Question 1.3: describe and evaluate possible adjustments made to transform the original source to adapt it to the concept of persons (if the original source is in terms of jobs), or conversely adapt it to the concept of jobs (if your country has chosen to publish national accounts data in terms of jobs and if the original source is in terms of persons).

Question 1.4: describe and evaluate adjustments made to this source in terms of coverage of the economic territory. Try to separate and evaluate adjustments for militaries (including specifically conscripted forces, if necessary), other collective households not covered by the main source, residents working outside/inside the economic territory.

Question 1.5: describe and evaluate adjustments made to take into account the unobserved economy.

Question 1.6: describe and evaluate other adjustments (residents working for non resident producer units – which are included in NA but not in labour force statistics--, non residents working with resident producer

units—included in NA but not in labour force statistics--, resident workers living permanently in an institution, resident workers under the age considered in labour force statistics, prisoners at work,...)[11]

Part on average annual hours worked

Question 2.1: Do you compile national accounts data in terms of hours worked for the total economy? If not, explain why. If yes, do you transmit this data to the OECD in the format of table 0303 (see attached)? If not, why?

Question 2.2: what is the main original source for hours worked in the national accounts (i.e: administrative source --e.g. official working hours--, Labour Force Survey, other)? Describe this source and its coverage. Describe the ability of this source to reflect the ILO definition of hours worked (see paragraphs 17.11 of the SNA). Describe different sources if different sources are needed to evaluate different parts of the employed population, in particular, if necessary, differentiate sources between employees and self-employed.

Question 2.3: describe the different adjustments made to transform the original source to adapt it to the concept of working hours in terms of national accounts. Try to separate and evaluate adjustments:

to take into account holidays and annual leaves
for sickness leaves,
for strikes and temporary lay-offs
for paid but not reported overtime
for unpaid overtime

Question 2.4: describe the estimation of hours made for self-employed? Is a specific adjustment made for unreported overtime for self-employed people? On the contrary, if LFS data is used, do you introduce a downward adjustment to reported actual hours by self-employed?

Question 2.5: if an adjustment is made for the number of employed in relation to the unobserved economy, what assumption is made regarding the hours worked by these persons?

Question 2.6: other adjustments before final figure for national accounts annual average working hours?

Total hours

Question 3.1: Describe the method to obtain finally total hours

Other issues

Question 4.1: do you use the concept of full-time equivalent in your published data? If not do you use it in your compilation process?

[11] ESA paragraphs 11.17 to 11.19 describe very precisely what is included and not included in the NA concept of employment.

Bridge table between labour force statistics and national accounts

Country: ???????	year ????
I. Employment numbers	
(1) Number of persons/jobs from the official Labour Force Statistics	?
of which employees	?
of which self-employed	?
Adjustment made to adapt to NA concepts	
From stock to annual flows (averages)	?
From jobs/persons concept to jobs/persons concept	?
Adjustment for economic territory	
Military	?
Other collective households not included in (1)	?
Territories not covered by (1)	?
Residents working outside the economic territory (-)	?
Non residents working inside the economic territory (+)	?
Adjustment for unobserved economy	?
Other adjustments	?
(2) Number of persons/jobs in the national accounts framework	?
II. Average Annual Hours worked	
(3) Main original number from Labour Force Statistics	?
Adjustments made on original source	
To take into account annual leaves and holidays	?
For sickness leaves	?
For strikes and temporary lay-offs	?
For paid but unreported overtime	?
For unpaid overtime	?
Other adjustments	?
(4) National Accounts annual average hours	?
III. Total hours worked	
(2) * (4) =	?

Bibliography

[1] OECD, 2003, The Sources of Economic Growth in OECD countries, Paris

[2] OECD Statistics Working Paper, 2003/5, Comparing Labor productivity Growth in the OECD area: the role of measurement, http://www.olis.oecd.org/olis/2003doc.nsf/LinkTo/std-doc(2003)5

[3] OECD Statistics Brief, March 2002, Purchasing Power Parities –measurement and uses. http://www.oecd.org/dataoecd/32/34/2078177.pdf

[4] Center for the Study of Living Standards, January 2004, Aggregate Labor productivity Growth in Canada and the United States: definitions, trends and measurement issues.

[5] The Atkinson Review: Interim Report, UK, July 2004, www.statistics.gov.uk/about/methodology_by_theme/atkinson/

[6] Annual Measure of the Volume of Work Consistent with the SNA: the Canadian Experience, Jean-François Maynard, StatCan, Lisbon, Paris Group Meeting, September 2004

[7] Calcul du volume des heures travaillées et de l'emploi dans la comptabilité nationale française, Paul-Emmanuel Piel, Lisbon, Paris Group Meeting, Septembre 2004

[8] Employment measures in the OECD national accounts: comparison between national accounts and labour force statistics, OECD, September 1998. http://www.oecd.org/dataoecd/53/47/2682096.pdf

[9] Consistency of employment and earnings statistics in labor force survey and national accounts for productivity, OECD, DSTI/EAS/IND/SWP(2003)11

[10] Employment data in the national accounts, Eurostat B1-B2/CN 536 en, October 2003

Appendix 1

Table 0303 of OECD/Eurostat questionnaire

Questionnaire "SNA 93 / ESA 95" **Table 0303**

Labour input[1] **country:** **year:**

	employ.			FTE			hours worked		
	total	employees	self-employed	total	employees	self-employed	total	employees	self-employed
	ETO	EEM	ESE	ETO	EEM	ESE	ETO	EEM	ESE
unit	TSD PER			TSD FTE			TSD HRS		
code of industries	1=2+3	2	3	4=5+6	5	6	7=8+9	8	9
AYA									
AYB									
AYC									
AYCA									
AYCB									
AYD									
AYDA									
AYDB									
AYDC									
AYDD									
AYDE									
AYDF									
AYDG									
AYDH									
AYDI									
AYDJ									
AYDK									
AYDL									
AYDM									
AYDN									
AYE									
AYF									
AYG									
AYH									
AYI									
AYJ									
AYK									
AYL									
AYM									
AYN									
AYO									
AYP									
AYQ									
TA31									

Appendix 2

Annual hours worked as published in the OECD employment outlook

See table F in

http://www.oecd.org/dataoecd/42/55/32494755.pdf

Appendix 3

INTERNATIONAL COMPARISONS OF LABOUR PRODUCTIVITY LEVELS - THE OECD APPROACH TO ESTIMATION

Dirk Pilat[12]

Introduction

1. International comparisons of productivity growth can give useful insights in the growth process, but should ideally be complemented with international comparisons of income and productivity levels. An examination of income and productivity levels may give insights into the possible scope for further gains, and also places a country's growth experience in the perspective of its current level of income and productivity. OECD has published estimates of labour productivity levels in various studies (*e.g.* Englander and Gurney, 1994; Pilat, 1997; Scarpetta, *et al.*, 2000; OECD, 2003), but has not yet produced official estimates of labour productivity levels. A table with estimates of productivity has been made available at the OECD Internet site on productivity, however, at: www.oecd.org/statistics/productivity

2. With the release of OECD estimates of productivity growth in the OECD Productivity Database in March 2004, attention has turned to the measurement of official OECD estimates of productivity levels, since these serve as a yardstick of economic performance in many OECD countries. Several statistical agencies and international organisations, including Eurostat, the UK Office of National Statistics, the US Bureau of Labor Statistics, and the International Labour Organisation, now release estimates of labour productivity levels, as do some academic institutions, such as the Groningen Growth and Development Centre, and some private institutions, such as the Conference Board. In several instances, notably in the case of Eurostat and the ONS, estimates of labour productivity levels serve as official yardsticks of economic performance and are used to measure progress with regards to explicit policy targets.

3. Given the importance attached to labour productivity levels, it is unfortunate that there is still considerable variation in the currently available estimates. Primarily, this seems due to differences in the choice of basic data and methodology. Indeed, much of the differences can be brought back to how different organisations select and combine information on the three components of labour productivity levels at the economy-wide level. These components are gross domestic product, labour input and a conversion factor for total GDP (typically a purchasing power parity or PPP) that is needed to translate output in national currency units to a common currency.

4. This note briefly discusses some of the main measurement issues for these components, as well as the different data choices that can be made. It focuses on the current OECD approach to measuring labour productivity levels, but also refers to other possible approaches, where appropriate. The discussion focuses on comparisons of labour productivity at the economy-wide level; the estimation of productivity levels for individual industries raises additional measurement issues that go beyond the scope of this paper.[13]

---

[12] This note reflects work in several parts of the OECD, notably in the context of national accounts, labour statistics, purchasing power parities as well as productivity statistics and analysis.

[13] A forthcoming OECD reader discusses these issues in greater detail.

Output: comparability and data choices

5. Most comparisons of labour productivity levels focus on GDP as the measure of output. Other measures of aggregate output, such as GNP or national income, have also been used in a few studies, but are not considered here. The measurement and definition of economic output is treated systematically across countries in the 1993 System of National Accounts (SNA 93). Most countries in the OECD area have now implemented the 1993 SNA, Turkey being the only exception, which implies that its level of GDP is likely to be somewhat understated relative to other OECD countries. Despite the harmonisation of GDP estimates through the 1993 SNA, there are some differences in estimation methods across countries, however (Ahmad, *et al.*, 2003). These typically have only a small effect on growth rates, but may be substantially more important for comparisons of output and productivity levels. Some of the main differences that are known to affect GDP levels are the following (Ahmad, *et al.*, 2003):

- ***Expenditure on military equipment.*** The coverage of government investment in the US National Income and Product Accounts (NIPA) is more extensive than that recommended by the SNA, since it includes expenditures on military equipment (aircraft, ships, missiles) that are not considered assets by the SNA. The national accounts in most other OECD countries strictly follow the SNA in this matter. As the amount of public investment affects GDP, this results in a statistical difference in the measurement of GDP. Convergence on this issue is expected in the next edition of the SNA, in 2008. In the meantime, the OECD publishes data in its Annual National Accounts Database for the United States which adjust for this difference.

- ***Financial Intermediation Services.*** Most banking services are not explicitly charged. Thus, in the SNA, the implicit production of banks is estimated using the difference between interests received and paid. All OECD member countries have estimated this part of bank production, known as "Financial Intermediation Service Indirectly Measured" or "FISIM". While it is relatively straightforward to recognise and estimate FISIM, the key problem is breaking it down between final consumers (households) and intermediate consumers (business and government). Only the first part has an overall impact on GDP. In the United States, Canada and Australia, such a breakdown has been estimated in the national accounts for some time, in accordance with the SNA. In Europe and Japan, the implementation of a breakdown between final and intermediate consumers has been delayed. The recent comprehensive revision of the US accounts has significantly reduced the difference in GDP levels linked to this factor to just over 1% of GDP, roughly halving the impact on growth. The EU member states and Japan have announced that they will implement the allocation of FISIM in their accounts, starting in 2005. Preliminary estimates suggest that European GDP levels would increase by approximately 1.3%, an amount close to the impact in the United States. This methodological difference should thus be mostly eliminated in 2005, but does affect current comparisons of GDP and productivity levels.

- ***Software investment.*** Another significant issue in the comparability of GDP concerns the measurement of software. The 1993 SNA recommended that software expenditures be treated as investment as long as the acquisition satisfied conventional asset requirements. This change added nearly 2% to GDP for the United States, around 0.7% for Italy and France, and about 0.5% for the United Kingdom. Doubts on the comparability of these data were raised when comparing "investment ratios", which are defined as the share of software expenditures that are recorded as investment to total expenditures in software. These ratios range from under 4% in the United Kingdom to over 70% in Spain (Lequiller, et al., 2003; Ahmad, 2003). *A priori*, one would expect that these are roughly the same across OECD countries. An OECD-Eurostat Task Force confirmed that differences in estimation procedures contributed significantly to the differences in software capitalisation rates, and a set of recommendations describing a harmonised method for

estimating software were formulated (Lequiller, *et al*, 2003; Ahmad, 2003). Most of these recommendations will be implemented by countries, but this will only happen gradually. Differences in software measurement will therefore continue to have an impact on the comparability of GDP levels for some time to come.

- ***The informal economy.*** Another factor that may influence the comparability of GDP across countries is size of the non-observed economy. In principle, GDP estimates in the national accounts take account of this part of the economy. In practice, questions can be raised about the extent to which official estimates have full coverage of economic activities that are included in GDP according to the SNA, or to which extent there some under-reporting is involved. Large differences in coverage could substantially affect comparisons of productivity levels.

6. It is not clear, *a priori*, how large the impact of these, and possible other, differences is on GDP levels. What is clear, however, is that there is a margin of uncertainty associated with the comparability of levels of GDP across countries. Consequently, there is also a range of uncertainty associated with estimates of productivity levels; small differences between countries (of a few percentage points) will obviously fall within this range of uncertainty. This is important in interpreting estimates of productivity levels; countries within a small range of income and productivity levels may not have income and productivity differences that are statistically or economically significant (Schreyer and Koechlin, 2002; Van Ark, 2004).

7. The data choices for GDP are fairly uniform across different sources. In the OECD estimates of productivity levels, data on GDP are derived from OECD's *Annual National Accounts* (ANA). The data from ANA are based on OECD's annual national accounts questionnaire to OECD member countries. The data resulting from this questionnaire may differ somewhat from national sources and are more comparable across countries than those derived from OECD's quarterly national accounts (or the *OECD Economic Outlook* database), thanks to some small methodological adjustments that are made. For example, the US GDP estimates are adjusted for expenditure on military equipment, as discussed above. However, the differences with other OECD sources, such as the *Quarterly National Accounts* and the *Economic Outlook* database, are minor for most countries.

8. For two countries, Australia and New Zealand, the OECD's Annual National Accounts provide GDP estimates for fiscal years. Since comparisons of productivity levels ideally have to correspond to the same (calendar) year, OECD currently derives GDP data for these countries from the OECD Quarterly National Accounts, as this source also provides data for calendar years.

Labour input: comparability and data choices

Employment

9. Equally important for international comparisons of productivity levels are comparable measures of labour input. In most comparisons of labour productivity levels, labour input is measured along only two dimensions: the number of persons employed and the total number of hours worked of all persons employed.[14]

10. Basic data for employment can be derived from several sources, including administrative records, labour force surveys and establishment or enterprise-based surveys. Labour force surveys are typically conducted to provide reliable information about personal characteristics of the labour force, such as

[14] A possible third dimension concerns labour composition. This dimension is currently not considered in the OECD approach.

educational attainment, age, or the occurrence of multiple job holding, as well as information about the jobs (*e.g.* hours at work, industry, occupation and type of contract). Compared with most other statistical sources on employment, labour force surveys are quite well standardised across OECD countries as most countries collect their numbers on the basis of agreed guidelines, and therefore they pose few problems for international comparisons. In addition, labour force surveys have fairly comprehensive coverage of the economy. However, they are based on a national concept, which implies that they exclude non-resident workers (commuters) that are quite important for some OECD countries. Moreover, they may have lower and upper age thresholds and may exclude institutional households. Despite these shortcomings, labour force surveys are often an important source of information for comparisons of productivity levels for the aggregate economy.

11. The main difficulty with employment estimates from labour force surveys is that the data are not necessarily consistent in coverage with other data needed, notably GDP and hours worked. Labour force surveys are mostly defined within geographic boundaries, whereas, for example, national accounts are defined within economic boundaries. This implies, for example, that a country's military bases and diplomatic premises on foreign soil are part of its economic territory, and that the residence of an enterprise is determined according to its "centre of economic interest".

12. A second major source of employment data is therefore the national accounts. Following the introduction of SNA 1993/ESA 1995 many countries now provide data on employment in the framework of the national accounts. In principle, national accounts information on employment is preferable over labour force surveys, due to the conceptual issues discussed above and since the national accounts are likely to integrate a wider range of basic source data on employment.

13. In practice, however, the concepts and actual compilation of the national accounts estimates of employment are not yet as well standardised as labour force surveys. One issue is conceptual; most European countries provide data on persons employed in their national accounts, as is also the case with the labour force surveys. In several other OECD countries, including Austria, Canada, Greece, Japan, the United Kingdom and the United States, the national accounts data on employment refers to the number of jobs, which is closer to the concept used in establishment or enterprise statistics. This conceptual difference can be quite important for the resulting estimate of employment, notably in countries with a high rate of multiple job-holding, such as the United States.

14. Previous OECD estimates of productivity levels have primarily used the labour force surveys as the preferred source of employment data for productivity comparisons at the aggregate level (see Scarpetta, *et al.*, 2000; OECD, 2003). This was driven by two motivations: 1) the degree of international harmonisation of labour force surveys as regards estimates of employment; 2) the link between employment estimates of labour force surveys and other population and workforce characteristics, such as working-age population and labour force. This link allows estimates of GDP per hour worked to be combined with estimates of GDP per capita, GDP per person of working-age and GDP per person in the labour force.

15. Recently, OECD has decided to move to the national accounts as the preferred source of employment data. This methodological change was driven by three motivations:

(1) *Consistency between GDP and employment.* Employment estimates from the national accounts are likely to be more consistent with GDP estimates than employment estimates from labour force surveys, since the employment estimates may incorporate information from other sources of employment. For example, in several countries, *e.g.* Italy, GDP includes an adjustment for the informal economy. This adjustment is also reflected in the employment estimate in the national accounts. The employment number in the labour force survey is

substantially lower; using this number for comparisons of productivity levels would lead to an upward bias in the Italian level of labour productivity.

(2) *Conceptual.* The national accounts are more appropriate from a conceptual point of view, since they use economic boundaries instead of national boundaries.

(3) *Link to OECD estimates of productivity growth.* The OECD estimates of productivity growth are also closely linked to the national accounts.

16. Despite this change in the source of employment data for OECD estimates of productivity levels, it is important to be cognisant of the statistical problems that are still associated with national accounts information on employment. The first important limitation is that only ten OECD countries currently include data on total hours worked in the framework of national accounts. These are: Canada, Denmark, Finland, France, Germany, Greece, Hungary, Korea, Norway and Sweden. The inclusion of such data is quite new and requires further investigation before they can be used for international comparisons. This investigation is under way. Currently, the OECD uses data on hours worked that are collected for the *OECD Employment Outlook* from a variety of sources, including labour force surveys, and combines these with employment figures from national accounts to derive an estimate of total hours worked (see below). In several cases, these estimates of hours worked are consistent with the national accounts (OECD, 2004). A second problem is that little is known about how countries currently integrate different sources of employment information in the national accounts. It is not clear whether this is done in a harmonised way across countries. Third, some countries supply data on persons employed, others on jobs or full-time equivalents.

17. Work is currently underway in several organisations, including the OECD and Eurostat, to examine and improve the employment measures that are included in the national accounts. This work will hopefully reduce some of the uncertainties that are associated with employment estimates in the national accounts, and the adjustments that countries make in integrating different sources of employment information.

Hours worked

18. Estimates of levels of GDP per hour worked require estimates of total hours worked that are consistent across countries. As discussed above, this consistency is currently achieved by matching the hours worked per person that are collected by the OECD for its annual *OECD Employment Outlook* with the national accounts measure of employment for each individual country. Estimates of average hours actually worked per year per person in employment are currently available on an annual basis for 27 OECD countries (see OECD (2004), Statistical Annex Table F). The OECD Productivity Database includes, in addition, hours of work per employee for Hungary and Korea. These estimates are available from National Statistical Offices for 20 countries, 7 of which are fully consistent with National Accounts concepts and coverage.

19. To develop these estimates, countries use the best available data sources for different categories of workers, industries and components of variation from usual or normal working time (e.g. public holidays, annual leave, overtime, absences from work due to illness and to maternity, etc.). For example, in 2 countries (Japan and United States) actual hours are derived from establishment surveys for regular or production/non-supervisory workers in employee jobs and from labour force surveys (LFS) for non-regular or managers/non-supervisory employees, self-employed, farm workers and employees in the public sector. In 3 other countries (France, Germany and Switzerland), the measurement of annual working time relies on a component method based on standard working hours minus hours not worked due to absences plus hours worked overtime. Standard working hours are derived from an establishment survey (hours offered), an

administrative source (contractual hours) and the labour force survey (normal hours), respectively. The coverage of workers is extended using standard hours reported in labour force surveys or other sources as hours worked overtime. Vacation time is either derived from establishment-survey data on paid leave or the number of days of statutory leave entitlements. Hours lost due to sickness are estimated from the number of days not worked from social security registers and/or health surveys.

20. On the other hand, the national estimates for 12 more countries (i.e. Australia, Canada, Czech Republic, Finland, Iceland, Mexico, New Zealand, Poland, Slovak Republic, Spain, Sweden and United Kingdom) rely mainly on labour force survey results. Annual working hours are derived using a direct method annualising actual weekly hours worked, which cover all weeks of the year in the case of continuous surveys. But, for labour force surveys with fixed monthly reference weeks, this method results in averaging hours worked during 12 weeks in the year and, therefore, necessitates adjustments for special events, such as public holidays falling outside the reference week (i.e. Canada and Finland). Finally, estimates of annual working time for 8 other EU member states (Austria, Belgium, Denmark, Greece, Ireland, Italy, the Netherlands and Portugal) are derived by the OECD Secretariat by applying a variant of the component method to the results of the Spring European Labour Force Survey (ELFS).

21. Two other considerations should be kept in mind. First, annual working-time measures are reported either on a job or on a worker basis. To harmonise the presentation, annual hours worked measures can be converted between the two measurement units by using the share of multiple job holders in total employment, which is available in labour force surveys, albeit no further distinction is possible between second and more jobs.[15] This difference is particularly important in matching annual working time estimates to employment estimates. Some countries provide employment estimates in the national accounts on the basis of jobs; for these countries, including the United States, it is important to ensure that the measure of annual working-time per person that is used reflects jobs instead of workers.

22. Second, given the variety of data sources, of hours worked concepts retained in data sources, and of measurement methodologies (direct measures or component methods[16]) to produce estimates of annual working time, the quality and comparability of annual hours worked estimates are constantly questioned, and are subject to at least two probing issues:

- Labour force survey-based estimates are suspected of over-reporting hours worked compared to work hours reported in time-use surveys, in particular for those working long hours, like managers and professionals.

- Employer survey-based estimates do not account for unpaid overtime hours and are sometimes suspected of under-reporting hours worked, with consequences on productivity levels and growth.

23. The comparability of measures of hours worked across OECD countries thus remains an issue, and work is currently underway, notably through the Paris Group, the UN city group on Labour and Compensation, to further improve the available measures of hours worked.

---

15. For example, the BLS-Office of Productivity and Technology (OPT) estimates of annual hours of work for the United States are reported on a (per) job basis and are later converted by the OECD Secretariat to a per worker basis by multiplying the job-based annual hours of work by (1 + CPS based share of multiple jobholders in total employment).

16. However, both methods can be summarised by the following identity: Annual hours per worker = Standard weekly hours worked x Number of weeks actually worked over the year = Weekly hours actually worked x 52 weeks, considering weekly reference period for reporting hours worked.

Purchasing power parities for international comparisons

24. The comparison of income and productivity across countries also requires purchasing power parity (PPP) data for GDP. Exchange rates are not suitable for the conversion of GDP to a common currency, since they do not reflect international price differences, and since they are heavily influenced by short-term fluctuations. The estimates used by the OECD are derived from its joint programme with Eurostat and refer to current-price PPPs (Schreyer and Koechlin, 2002). The OECD does not recommend the use of PPP-adjusted estimates of GDP in time series, because of the difficulty to obtain PPPs that are consistent over time. This is why only **one year** of productivity **level** comparisons is included in the OECD Productivity Database. Users interested in adding a time dimension to this one year level comparison should use the corresponding database on productivity growth, which gives appropriate indices of productivity growth for individual OECD countries over a long time period.

OECD estimates of labour productivity levels

25. Clearly, data for international comparisons of income and productivity are not perfect and some choices between different sources have to be made. In the OECD approach, GDP is derived from the OECD ANA database, which incorporates the latest comparative information on GDP from OECD member countries. Data on employment for most countries are also from the OECD national accounts as these should have a better correspondence to the estimates of GDP. For a limited number of countries, no appropriate employment estimates are currently available from the national accounts, in which case employment is derived from the OECD Labour Force Statistics. To convert GDP to a common currency, the OECD uses current PPPs, which are developed in the OECD-Eurostat PPP programme.

26. Table 1 presents the resulting productivity level estimates for 2002. In 2002, France, Ireland, Belgium, the Netherlands, Norway and Luxembourg had levels of GDP per hour worked that were higher or comparable to the United States.

OECD estimates of labour productivity for 2002, 3 September 2004

	GDP, national currency units (1)	Source for GDP	PPP for total GDP, 2002 (2)	GDP, million USD (3)	Employment (1000 persons) (4)	Source for employment	Annual average hours worked, OECD Employment Outlook (5)	Total hours worked (million hours) (6)	GDP per hour worked, USD (7)	GDP per hour worked, USA=100 (8)
Australia	736.589	QNA	1.36	542.498	9.295	LFS	1824	16.954	32.0	77
Austria	218.333	ANA	0.939	232.509	4.067	ANA	1567	6.372	36.5	88
Belgium	260.011	ANA	0.908	286.311	4.136	ANA	1547	6.398	44.7	108
Canada	1.140.428	ANA	1.19	954.370	15.673	ANA	1731	27.130	35.2	85
Czech Republic	2.275.609	ANA	14.77	154.116	4.765	ANA	1980	9.435	16.3	40
Denmark	1.360.710	ANA	8.66	157.147	2.782	ANA	1462	4.067	38.6	94
Finland	139.803	ANA	1.01	137.799	2.360	ANA	1727	4.075	33.8	82
France	1.526.821	ANA	0.913	1.673.068	24.887	ANA	1437	35.763	46.8	113
Germany	2.107.300	ANA	0.987	2.134.566	38.690	ANA	1443	55.838	38.2	93
Greece	141.334	ANA	0.700	201.881	3.925	ANA	1928	7.567	26.7	65
Hungary	16.740.421	ANA	118.63	141.119	3.871	ANA	1766	6.835	20.6	50
Iceland	778.466	ANA	95.39	8.161	157	LFS	1812	284	28.7	70
Ireland	129.344	ANA	1.01	127.599	1.766	ANA	1666	2.943	43.4	105
Italy	1.260.428	ANA	0.848	1.486.100	24.009	ANA	1599	38.390	38.7	94
Japan	498.102.000	ANA	146	3.421.937	65.299	ANA	1798	117.418	29.1	71
Korea	684.263.469	ANA	736	930.102	22.151	ANA	2410	53.384	17.4	42
Luxembourg	22.506	ANA	1.02	22.039	288	ANA	1613	464	47.5	115
Mexico	6.256.382	ANA	6.65	941.362	40.117	ANA	1888	75.741	12.4	30
Netherlands	444.649	ANA	0.949	468.434	8.349	ANA	1338	11.171	41.9	102
New Zealand	127.815	QNA	1.46	87.719	1.885	LFS	1816	3.423	25.6	62
Norway	1.522.176	ANA	9.44	161.206	2.317	ANA	1342	3.110	51.8	125
Poland	781.312	ANA	1.88	414.813	14.598	ANA	1958	28.567	14.5	35
Portugal	129.557	ANA	0.677	191.231	5.115	LFS	1697	8.680	22.0	53
Slovak Republic	1.096.384	ANA	16.63	65.916	2.016	ANA	1979	3.989	16.5	40
Spain	696.208	ANA	0.766	908.464	16.343	ANA	1813	29.629	30.7	74
Sweden	2.347.400	ANA	9.65	243.342	4.353	ANA	1581	6.882	35.4	86
Switzerland	427.787	ANA	1.91	223.782	4.172	ANA	1555	6.487	34.5	84
Turkey	277.574.057	ANA	618281	448.945	21.854	LFS	1930	42.178	10.6	26
United Kingdom	1.043.306	ANA	0.630	1.655.369	29.864	ANA	1692	50.530	32.8	79
United States	10.429	ANA	1.00	10.429.000	147.721	ANA	1709	252.455	41.3	100
OECD				28.850.907	526.820		1739	916.161	31.5	76
G7				21.754.411	346.149		1668	577.524	37.7	91
North America				12.324.732	203.511		1746	355.326	34.7	84
OECD-Europe (3)				11.094.974	202.826		1615	327.477	33.9	82
EU-19 (4)				10.701.824	196.180		1619	317.596	33.7	82
Euro-zone (5)				7.870.001	133.940		1548	207.291	38.0	92

Notes: (1) Employment estimates for Austria, Canada, Greece, Japan, the United Kingdom and the United States refer to jobs.
(2) The estimate of annual hours worked for the United States refers to hours worked per job.
(3) Excluding Turkey.
(4) All EU members that are also OECD member countries.
(5) Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain.
Source: OECD estimates.

27. These estimates still require further work in the following ways:

(1) For a number of countries (Austria, Canada, Greece, Japan, United Kingdom and the United States), the employment estimate in the national accounts reflects jobs instead of persons employed. This problem can be addressed in two ways, namely by a) applying a corresponding estimate of hours per job to generate a suitable estimate of total hours worked (this is currently the procedure used for the United States); or b) developing estimates of persons employed for the national accounts for all countries, that can be used in combination with estimates of annual hours worked per person.

(2) The estimates of annual hours worked per person for several OECD countries are not yet consistent with the national accounts. Data on hours worked currently reach the OECD through two data collections. First, 29 OECD countries currently provide data on hours worked to the annual data collection for the *OECD Employment Outlook*; 7 of these countries provide the OECD with estimates of annual hours worked that are consistent with national accounts concepts and coverage. Secondly, ten countries provide estimates of total

hours worked in the framework of the national accounts for inclusion in OECD's Annual National Accounts. Further investigation of these estimates of hours worked is needed, which is planned for the next meeting of the Paris Club.

(3) The employment estimates that are currently incorporated in the national accounts are not necessarily consistent across countries or with the corresponding estimate of GDP. Addressing this problem will require further statistical work, notably in the OECD National Accounts meeting of October 2004.

(4) For analytical purposes, it is important that estimates of GDP per hour worked are combined with estimates of GDP per capita and estimates of GDP per person in the labour force and GDP per person of working age. The national accounts currently often do not include the necessary information on working-age population and labour force, and such data have commonly been derived from labour force statistics. The OECD's change in method towards the national accounts as the main source of employment information requires that the link between labour force statistics (i.e. national concepts) and national accounts estimates of productivity (i.e. domestic concepts) is addressed.

28. Finally, it is important to reiterate once more that the basic information for comparisons of productivity levels across countries will require further work to enhance international comparability. This is both the case for GDP estimates, as discussed above, and also for estimates of labour input. In the mean time, comparisons of productivity levels should be interpreted with care and small differences between countries should be considered as falling in a margin of uncertainty, which may not be statistically or economically significant.

REFERENCES

Ahmad, Nadim (2003), "Measuring Investment in Software", *STI Working Paper 2003/6*, OECD, Paris.

Ahmad, Nadim, Francois Lequiller, Pascal Marianna, Dirk Pilat, Paul Schreyer and Anita Wölfl (2003), "Comparing Labour Productivity Growth in the OECD Area: The Role of Measurement", *STI Working Papers 2003/14*, OECD, Paris.

Englander, S. and A. Gurney (1994), "Medium-Term Determinants of OECD Productivity", *OECD Economic Studies*, No. 22, Spring, pp. 49-109.

Lequiller, F., Ahmad, N., S. Varjonen, W. Cave and K.H. Ahn (2003), "Report of the OECD Task Force on Software Measurement in the National Accounts", *Statistics Directorate Working Paper 2003/1*, OECD, Paris.

OECD (2001), *Measuring Productivity - OECD Manual*, OECD, Paris.

OECD (2003), *Science, Technology and Industry Scoreboard 2003*, OECD, Paris.

OECD (2004), *OECD Employment Outlook*, OECD, Paris, July.

Pilat, D. (1997), "Competition, Productivity and Efficiency", *OECD Economic Studies*, No. 27, 1996/II, pp. 107-145, OECD, Paris.

Scarpetta, S., A. Bassanini, D. Pilat and P. Schreyer (2000), "Economic Growth in the OECD Area: Recent Trends at the Aggregate and Sectoral Levels", *OECD Economics Department Working Paper No. 248*, Paris.

Schreyer and Koechlin (2002), "Purchasing power parities – measurement and uses", *Statistics Brief*, March 2002, No. 3, OECD, Paris.

Schreyer, P. and D. Pilat (2001), "Measuring Productivity", *OECD Economic Studies*, No. 33, 2001/2, OECD, Paris, pp. 127-170.

Van Ark, B. (2004), "The measurement of productivity: what do the numbers mean?, G. Gelauff, L. Klomp, S. Raes and T. Roelandt (eds.), *Fostering Productivity – Patterns, Determinants and Policy Implications*, Elseviers, Chapter 3, pp. 29-61.

Appendix 4

U.S. HOURS WORKED DATA

August 2004

Introduction:

1. The primary source of most official labor data in the United States is the Bureau of Labor Statistics (BLS). BLS collects data and prepares estimates of employment, unemployment, average weekly hours, average hourly earnings, hours worked, and many other measures of labor force activity. The Bureau of Economic Analysis (BEA) prepares a limited number of measures of labor force activity (including hours worked by full-time and part-time employees) that are consistent with wage and salary estimates presented in the U.S. national income and product accounts (NIPAs). This paper will describe the derivation of hours worked by BLS and BEA and the differences between the two measures.

BLS Hours Worked:

2. BLS collects data on labor hours in two monthly surveys - the Current Employment Statistics survey (CES) of establishments and the Current Population Survey (CPS) of households.[17] The CES collects data on employment for all employees and earnings and hours **paid** for production and nonsupervisory workers from a sample of nonfarm business establishments. The CES employment data are based on jobs rather than persons. The CES sample includes about 160,000 business and government agencies representing approximately 400,000 establishments. The CES data are benchmarked annually. The benchmark levels are primarily based on administrative records of employees covered by state unemployment insurance tax records. The CPS, the U.S. labor force survey, collects information on employment, hours **worked**, and demographics for all persons, including employees, proprietors, and unpaid family workers. The CPS sample includes approximately 60,000 households. Data from the survey are used to construct the official measure of unemployment. There is no direct benchmark for the CPS employment data. Adjustments to the underlying population base are made annually using intercensal estimates and every ten years using the decennial census.

3. The BLS constructs a quarterly measure of hours worked for all persons for use in measuring major sector productivity. The primary source of hours information for the productivity program is the monthly establishment survey, the CES. However, for measuring productivity, estimates of hours worked are preferable to estimates of hours paid. Thus, the CES data are converted to an hours worked basis using a ratio of hours worked to hours paid. Information from the Employment Cost Index (ECI) of the BLS National Compensation Survey program is used for 2001 forward to link to the annual Hours at Work Survey (HWS), which was terminated after 2000, and is used for years prior to 2001. The ratios of hours at work to hours paid are currently constructed from the ECI data as the ratio of the value of paid work to the sum of the value of paid leave and paid work.[18]

---

[17] See BLS website for a detailed discussion of these surveys, www.bls.gov.

[18] Following collection of data for 2000, the hours-at-work survey was discontinued. BLS has since investigated alternative sources for these estimates. The Employment Cost Index (ECI) of the BLS National Compensation Survey is designed to measure the hourly cost of wages and benefits for a set of occupations within establishments. One portion of the hourly costs is the value of paid leave. To determine the value of paid leave, information on work schedules, overtime hours, leave plans, paid holidays and actual sick leave are collected. While the ECI data were not designed for this purpose, ratios of hours at work to hours paid can be constructed from the ECI data as the ratio of the value of paid work to the sum of the value of paid leave and paid work. These ratios are empirically very similar to the hours-at-work survey ratios, are timelier and provide quarterly

4. For measuring the hours worked of all persons, the CES data also must be appended to incorporate the hours of nonproduction and supervisory workers, as well as data on employees of farms, proprietors, and unpaid family workers that are not available from the CES. BLS introduced a new method of constructing estimates of hours for nonproduction and supervisory workers in the August 10, 2004 Productivity and Costs News Release.[19] In this new method, data from the CPS are used to construct a ratio of the average hours worked by nonproduction and supervisory workers relative to the average hours worked by production and nonsupervisory workers. This ratio is then used with the CES information to arrive at a measure of total hours worked. The historical time series have been revised to incorporate this change. Data on employees of farms, proprietors, and unpaid family workers are taken directly from the CPS. Government enterprise hours are developed from BEA estimates of government enterprise employment and CPS data on average weekly hours.

BEA Hours Worked by Full-Time and Part-Time Employees:

5. BEA publishes annual estimates of hours worked by full-time and part-time (FTPT) employees by industry sector. The estimates for hours worked are the product of industry FTPT employment, average weekly hours, the number of weeks in a year (52), and the ratio of hours worked to hours paid.

6. The principal source of nonfarm industry employment data is tabulations of employees covered by state unemployment insurance from BLS. BEA also includes estimates of employees not covered by state unemployment insurance. The noncovered employment is comprised of two elements: (1) presumed noncovered employment from BLS; and (2) an estimate of employment associated with the underreporting of wages and salaries by some nonfarm sole proprietorships, partnerships, and small corporations and the nonfiling of tax returns by some sole proprietorships and partnerships (with employees). Employment estimates for private households are derived from the CPS. Farm employment estimates are derived from tabulations from the U.S. Department of Agriculture.

7. Most nonfarm average weekly hours estimates are from the BLS CES program, which provides monthly survey data on the average weekly hours of production and nonsupervisory workers in nonagricultural establishments. Estimates from the CPS are used for agricultural and private household average weekly hours.

8. The average weekly hours measured by the CES program are hours paid rather than hours worked. Estimates from the BLS hour-at-work survey are used to convert the hours paid of nonagricultural workers to an hours-at-work basis for 2000 and before. This survey was discontinued after the collection of data for 2000. For 2001 forward, BEA has used the BLS ratios of hours worked to hours paid derived from the ECI to convert the hours estimates.

9. Note that BEA hours worked estimates are for full-time and part-time workers only. The hours worked by self-employed persons and unpaid family workers are **not** included. The primary use of BEA hours data is to calculate average hourly wages or average hourly compensation.

BEA versus BLS Hours Worked:

10. The BLS measure of total hours worked (including all sectors) is a more comprehensive measure than the BEA measure of hours worked. The BLS measure includes self-employed persons and unpaid

---

information on changes in the ratios. These estimates have been used by BLS to derive hours worked for 2001 forward.

[19] An article discussing these new measures and the effects of this change was published in the April 2004 issue of the *Monthly Labor Review*.

family workers. However, it does not include an estimate of the hours worked for the employment associated with the underreporting or nonreporting of wages and salaries. The BEA hours worked measure is only for FTPT employees and excludes self-employed persons and unpaid family workers. However, the BEA measure includes an estimate for the hours worked from the employment associated with underreporting or nonreporting of wages and salaries.

11. Perhaps the most complete hours worked measure for calculating the productivity of the entire U.S. economy would be a combination of BLS total hours worked (including all sectors) plus the BEA measure of the hours worked from the employment associated with the underreporting or nonreporting of wages and salaries. BEA and BLS staff are currently discussing the possibilities of developing such a measure.

Prepared by Kurt Kunze
U.S. Bureau of Economic Analysis

(incorporates information provided by Marilyn Manser, U.S. Bureau of Labor Statistics)

For Official Use **STD/NAES(2004)4**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development **22-Sep-2004**

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)4
For Official Use

Cancels & replaces the same document of 21 September 2004

National Accounts and Economic Statistics

MANAGING SUPPLY-USE BENCHMARKING IN THE AUSTRALIAN NATIONAL ACCOUNTS

This document has been prepared by Carl OBST - ABS (Australia)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12 - 15 October 2004

Tour Europe - Paris La Defense
Beginning at 9:30 a.m. on the first day

For further information please contact:
Carl Obst
E-mail: carl.obst@abs.gov.au

JT00169758

English - Or. English

MANAGING SUPPLY-USE BENCHMARKING IN THE AUSTRALIAN NATIONAL ACCOUNTS

1. Introduction

1. In 1995 Australia made the decision to use annual supply and use benchmarking in the construction of its national accounts estimates of GDP. This decision followed international best practice and was a significant change in the way in which the accounts were compiled for Australia. Traditionally, current price measures of output and intermediate consumption had not been compiled in a time series fashion and so the move to supply and use benchmarking tested both our ability to compile new perspectives on GDP and our ability to integrate a new benchmarking and balancing approach within a well established compilation system.

2. The first estimates on the new approach were released in late 1998 so with six years of experience we are now starting to ask questions about how we have implemented the supply and use approach and how we compare against other countries. In particular, we would like to consider how we might learn from other countries' experiences over the past decade.

3. While a general assessment of our supply and use benchmarking suggests a successful implementation, there are certain aspects that deserve further consideration. This paper seeks to highlight some of the key operational issues that we have encountered which might serve as a basis for having an increased range of operational level discussions across the international national accounts community. The paper also summarises the re-development of our annual supply and use table system that is presently well underway. We understand that a number of countries are undertaking re-developments or have recently changed systems and our summary may provide a starting point for consideration of any synergies that might be exploited.

4. The main aim of presenting this paper is to encourage increased discussion on some of the practical aspects of national accounting. We believe that we might be able to learn a significant amount and generate a range of improvements through increased liaison on operational matters.

2. The ABS approach to benchmarking

The basics

5. A brief introduction to the ABS benchmarking approach is required. The following are the pertinent points:

- A time series of supply and use (SU) tables is maintained. Annual SU tables in current prices commence in 1994-95 and annual SU tables in prices of the previous year (constant price) commence in 1995-96.

- In a "normal" year three SU years are considered. For example, for the annual data to be released up to and including 2003-04 (year t), we compile current and constant price tables for 2002-03

(t-1), 2001-02 (t-2) and 2000-01 (t-3). Respectively these versions are called the first preliminary table, the second preliminary table and the final table.

- Since 1998 we have had one "historical revision" in 2001 in which all tables from 1994-95 onwards were updated. We are planning another historical revision to be implemented in 2005 during which it is planned that all tables from 1994-95 will be updated.

- The results of the SU table compilation are used as benchmark data for the annual national accounts release each year which occurs in early November. Thus aggregate results from the first preliminary are incorporated into the accounts 16 months after the reference period. Often the data set available for the construction of the first preliminary table is somewhat incomplete and so revisions in the second preliminary and final tables occur.

- There are three sections that work on the regular compilation of the accounts: the National Income and Consumption section (NIC) (which also compiles regional accounts); the Capital, Production and Deflators section (CPD); and the Supply and Use Benchmarks section (SUBS). This structure is essentially the one which has been in use for a long period of time. Previously, SUBS was the Input-Output section and compiled the I-O tables which were not directly used in the published quarterly and annual national accounts.

- The NIC and CPD sections work on both the quarterly and annual accounts while SUBS works annual SU tables more specifically. NIC and CPD are required to use the compiled benchmarks and apply them in a longer time series context (back to 1959-60) and in quarterly terms.

- NIC and CPD work mainly using FAME although some components are still compiled using spreadsheets. SUBS works mainly using Excel spreadsheets and some legacy software components but also uses FAME to a limited degree for compiling constant price tables. There are very few direct links between the SU table systems and the NIC and CPD systems.

- The revisions policy has become more restrictive under the SU benchmarking approach. In the past, revisions to time series were generally constrained to once per year but, if required, could happen during any quarterly release. Since the introduction of SU benchmarking it has been necessary to constrain revisions to time series quite significantly. Generally, revisions to periods from t-1 forward are permitted in any quarter, revisions to t-2 and t-3 are permitted once per year and revisions earlier than t-3 are permitted during historical revisions only.

- The timing of compiling GDP components has had to improve to ensure that there is sufficient time for the confrontation and balancing process to occur. In general we aim to complete all inputs to the set of SU tables for a given cycle around 4-5 months ahead of the release of the data but this does not often occur in practice.

The challenges

6. There are, of course, continual challenges in putting together the national accounts. Bringing together a diverse range of data sources and compiling three "independent" measures of the same thing while separating out the price and volume components is no easy task. Nonetheless, based on our experience, there seem to be some particular challenges that we have faced over the past six years that appear to be more specific to compiling GDP in an SU framework.

a) Culture and structure

7. The first challenge which are slowly overcoming is introducing a supply and use mentality to all of our compilers. In the past there had been relatively few people who were required to look over the accounts in their totality partly because there was no explicit link between the different approaches to GDP at a fine level of detail. Increasingly we are asking compilers to consider their time series in a broader context. This cultural change is quite significant. Of course, for those working in SUBS the cultural change was not great since many of them had been working in an Input-Output environment for some time. But for NIC and CPD staff the process is still ongoing. At the same time the challenge for staff in SUBS was to start thinking in a time series context as they had been working on individual Input-Output tables released once every three years.

8. One issue is whether the structure of the compiling sections is optimal. While it may be an obvious choice to compile SU benchmarks in the former I-O section, a question we are now posing is whether an alternative structure could be conceived. This might mean that the compilation of SU tables is more integrated with the traditional national accounts work. Do other countries have similar structure to the ABS or is the compilation of supply and use tables a well integrated process?

b) Data management

9. The second challenge is data management. Prior to the introduction of SU benchmarking there had never been systemic problems of versions of series. At times there were problems of ensuring the annual data set was consistent with a particular quarter's release but on the whole this was not a systemic problem. Since adopting the SU benchmarking approach we now find that possibly four versions (and at least two versions) of any single series may be in existence at any one time. One version is the estimate to be released in the next quarterly publication. The second version is that to be released as part of the next SU benchmark. A third version would be where a series was being developed on a new basis for inclusion in an historical revision. A fourth version might be related to being compiled on a new industry or updated SNA basis. This versioning creates significant issues for data management. Not least of which is that when new source data are introduced all of the relevant versions need to be updated but not necessarily in the same way - depending on the consistency of compilation method over time.

10. Our current "solution" is to store the different versions on different FAME databases. This works but is quite labour intensive to maintain and is relatively risky in the sense that using the wrong version at the wrong time could occur. To date no errors have occurred but, equally, no obvious solutions to this issue have emerged. ABS would be very interested to know if other countries using an SU benchmarking approach face a similar practical data management problem and if so, whether any good solutions have been adopted.

c) Editing tools

11. Editing the increased range of data inherent in an SU benchmarking approach has also been challenging. In our case this has resulted from a combination of needing to develop editing skills and the complexity of our systems environment. The difficulty is trying to both edit data in a structural sense (supply versus use) and also over time. While reasonably easy to visualise the editing that is required, developing an outcome in a technical sense has proved difficult. In the re-development of our SU system (discussed in the next section) the ability to look at both the structural and time series dimensions simultaneously has been a key driving factor. More broadly, we feel that the type of technical solution that would assist in this type of editing could be powerful in the context of compiling and editing the series of income, capital and financial accounts and balance sheets which also have both a structural and a time

series dimension. We presume that other countries face similar editing problems and a discussion on the types of solutions that have been found would be useful.

d) Time series of SU data

12. At present, we have decided to continue to maintain the time series of balanced GDP levels and movements from 1994-95 onwards. However, at some point the maintenance of balanced GDP becomes a very onerous task as not all revisions to independent times series are "balanced" revisions. Are countries who have compiled annual SU benchmarks for longer than ten years in the habit of maintaining balances? Do countries only keep the latest few years in balance? While there are clearly individual country's user needs to consider some understanding of how countries deal with long time series of annual SU tables would be useful.

e) SU compilation skills

13. In ABS, there is a decreasing number of staff with expert skills in input-output and supply-use analysis. In the past, the input-output tables were a fairly separate and unique set of outputs leading to the development of specialised skills that were not actively required in other parts of the ABS. The introduction of SU benchmarks has brought the need for these skills into sharp focus as the compilation of GDP now relies on having staff who understand the intricacies and nuances of SU and I-O table construction and balancing. Further the advancement of satellite accounting requires a similar set of skills. In ABS we are seeking ways to try and develop the required skill set among our staff but our feeling is that people who can become real experts in this area are few and the process of developing these skills time consuming. Do other countries have a skill shortage in this area and if not, is this because training programs and the like are working well?

3. Planned developments for the ABS supply-use and input-output systems

Background

14. One of the more significant barriers to the effective implementation of the Supply Use benchmarking strategy described above was and remains the lack of integrated software to support the statistical processes involved in compiling and disseminating the various sets of data required.

15. In particular the mainframe system used to produce Input Output tables prior to the move to the new strategy did not provide all the functionality required to deliver the benchmark production accounts. In principle the data content of the basic building blocks for the SU and IO tables are identical. However, there are important differences in emphasis between the respective outputs as well as some differences that have arisen as a consequence of decisions taken by the ABS in implementing the approach.

16. Further, the IO mainframe system did not provide the level of flexibility and useability required to compile several years of SU tables concurrently. At the time of transition the team developing the initial benchmarks were operating under considerable time pressures and not all members of the team were skilled in the use of the mainframe system. The solution that was adopted was to develop an independent "system" built around Excel spreadsheets, for the current price component. This solution is still the current practice. Volume estimates are derived by transferring these current price estimates to FAME and deriving the volume estimates on that platform. The price deflators required for this task are stored on FAME. The separation of the processing of current price and volume estimates is seen to be a major shortcoming of the current approach as it means that it is difficult to balance current price and volume estimates in a fully consistent manner.

17. Another important objective of the current strategy is that the analytic IO tables released by the ABS present estimates that are entirely consistent with the estimates released in the most recent edition of the annual national accounts release. Given the architecture of the current system this is difficult to achieve as the analytic IO tables are produced somewhat independently of the Supply Use tables and at a later time.

18. The separate processing of the IO and SU tables occurs because

- the level of product and industry detail used in the compilation of the SU tables is at a higher level of aggregation than that adopted for the IO tables; and
- the IO tables require that each product is balanced at basic prices, as well as at purchasers' prices, meaning that each margin, including taxes and subsidies, needs to be allocated to final use and intermediate use categories. Balancing of the SU tables is limited to balancing at purchasers' prices.

19. The less extensive method of balancing needed for SU table compilation and the less detailed product and industry are both necessary requirements in the current systems environment in order for us to achieve the compilation of the benchmark SU tables within the timelines required for the release of the annual and quarterly accounts.

20. Beyond these requirements it is also clear that the separation of the current price and volume components of the SU system and the lack of integration of the SU system with the national accounts systems are significant statistical barriers. These issues are the principal drivers of the redevelopment of the SU system that is currently underway. Other drivers of the redevelopment include the need for greater integration of SU and IO tables and the removal of dependencies on legacy software and mainframe systems.

The technical solution

21. The current redevelopment of the supply use system is intended to meet the following objectives.

- Concurrent balancing in current price and volume terms
- Concurrent balancing across the time series dimension
- Use of corporately approved tools, especially in respect of metadata maintenance and output data stores
- Integration of input output and supply use
- Robust data management tools
- Retention of a flexible 'front end' that facilitates 'data scavenging' from ABS and non-ABS sources

22. The underlying data store will be an Oracle data store based on a 'star schema' dimensional model. This is a powerful and robust system that will support up to date data management practices and migration of data and metadata to corporately supported data stores. This is the 'back end' of the system and will be largely hidden from the supply use compilers.

23. The 'front end' of the system will appear to be a set of Excel workbooks. These workbooks will be used to facilitate data scavenging from a variety of data sources. As the ABS input data warehouse becomes more powerful and more comprehensive the possibility of directly sourcing data from the ABSIW will be investigated.

24. Excel will also be used as the main tool for viewing and amending the data on the Oracle store. This will retain the flexibility inherent in the existing system, but with a robust set of underlying building blocks.

25. The key to melding the Excel environment with the Oracle environment is the use of the Visual Studio toolset in the Microsoft .Net environment. This will allow the creation of objects which appear to be simple Excel worksheets, but are actually highly structured and controlled 'windows' into the Oracle system. In this way the users will retain the flexibility for data capture and transformation inherent in a spreadsheet based system but also link to the robust data management facilities of a modern database management system.

26. The redeveloped system will allow importation of data in a variety of formats from the full range of platforms in use in the ABS. It will also allow the production of 'data cube' datasets, either directly or via existing ABS dataset infrastructure.

4. Conclusion

27. The adoption of SU benchmarking in the Australian national accounts has been a very positive development. It is clear that we have achieved greater coherence throughout our production account series and in the overall measure of GDP. Further, the ABS has greater confidence in the published series and better intelligence on how to sensibly reconcile data from various sources. Indeed, in recognition of the power and usefulness of the supply and use framework, we have developed experimental quarterly supply and use tables to assist in our editing of quarterly data. A separate paper outlining this development has also been presented to this National Accounts Experts meeting.

28. While the adoption of the benchmarking approach has been positive, the compilation environment and particularly the systems available for its implementation have been difficult to manage. This paper has noted a range of challenges that we have had to deal with in implementing and maintaining SU benchmarking and provided some detail behind developments that are underway to improve the systems environment.

As noted in the introduction, the main aim of presenting this paper is to encourage increased discussion on some of the practical aspects of national accounting. We believe that we might be able to learn a significant amount and generate a range of improvements through increased liaison at the operational level. One idea to further this objective is for an EDG to be established through which countries might exchange developments, ideas and problems, particularly those relating to compilation systems and data management.

Issues for discussion

- To what extent do other countries face similar challenges in the compilation of SU tables?
- Are there commonalities in method/approach that can be built upon?
- Would an EDG allowing a forum for exchange on SU benchmarking, compilation systems and data management issues be a useful idea?

For Official Use **STD/NAES(2004)5**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

22-Sep-2004

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)5
For Official Use

Cancels & replaces the same document of 21 September 2004

National Accounts and Economic Statistics

QUARTERLY SUPPLY AND USE TABLES IN THE AUSTRALIAN NATIONAL ACCOUNTS

This document has been prepared by Carl OBST - ABS (Australia)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12 - 15 October 2004

Tour Europe - Paris La Defense
Beginning at 9:30 a.m. on the first day

For further information please contact:
Carl Obst
E-mail: carl.obst@abs.gov.au

JT00169759

English - Or. English

QUARTERLY SUPPLY AND USE TABLES IN THE AUSTRALIAN NATIONAL ACCOUNTS

Introduction

1. This paper describes the development of experimental quarterly supply and use tables in the Australian national accounts. These tables have been developed over the past three years with the aim of increasing the coherency of the quarterly GDP estimates, by systematically assessing the discrepancies between the three independent measures of GDP that are compiled each quarter. There are no plans to balance GDP on a quarterly basis. Rather, gains are anticipated through simply confronting the various data sources within the strong editing framework of supply and use.

Background

2. In 1998, as part of its implementation of SNA93, the ABS introduced balanced annual estimates of gross domestic product (GDP) in both current prices and in volume terms. Balanced estimates are available from 1994–95 to the year prior to the latest complete financial year. A balanced estimate of GDP implies there are no statistical discrepancies between the three approaches to measuring GDP, namely:

- the expenditure approach, GDP(E) i.e. summing final expenditures less imports
- the production approach, GDP(P) i.e. summing the gross value added of each industry
- the income approach, GDP(I) i.e. summing factor incomes.

3. The annual estimates of GDP and its components are compiled in supply and use tables by a process of confronting and balancing the supply and use of goods and services. This ensures that final domestic expenditures, intermediate usage and exports are consistent with output and imports, and that the incomes and gross value added of each industry are the same.

4. Quarterly estimates of GDP are not compiled in a supply and use framework and are unbalanced. However, the quarterly current price and chain volume estimates are constrained to sum to the balanced annual estimates. This has resulted in a reduction in the absolute size of the quarterly statistical discrepancies. Nonetheless differences in both levels and quarter-to-quarter movements still remain between the three independent measures of quarterly GDP. It should be noted that the official measure of GDP used in the Australian quarterly national accounts (QNA) is the average of the three measures. Statistical discrepancies are recorded in order to achieve accounting equivalence between the official measure and that derived using the three independent approaches.

Compilation practice for the quarterly national accounts

5. A large variety of survey and administrative data are used to compile the QNA. Any inconsistencies or gaps remaining in the data are ultimately reflected as statistical discrepancies. The national accounts compilation process incorporates a review process designed to highlight inconsistencies and improbable movements in the data. Problems are identified, investigated and resolved in an iterative manner in the process of finalising the estimates of GDP.

6. Over the past two years the ABS has developed and trialled a quarterly supply and use (QSU) model as an editing tool to assist in the preparation of the QNA. A QSU model enables inconsistencies between the different measures of GDP to be identified and investigated more systematically, and at a greater level of detail, than is possible by simply examining the aggregate estimates. At the present stage of its development, the QSU model is used as an aid in the compilation of the seasonally adjusted chain volume production and expenditure based estimates of GDP. As we gain experience with its use, the model may be extended in the future to incorporate current price estimates, including income based estimates. This paper describes how the QSU model works and how it is used to help edit the quarterly national accounts.

The QSU model

7. The QSU model is specifically designed for use with the quarterly national accounts. In the quarterly system GDP is estimated at a relatively high level of aggregation so the source of discrepancies between the three measures of GDP may not be evident. The QSU model expands the level of detail in the system in order to articulate the relationships between the different measures of GDP and thus help to identify the source of differences.

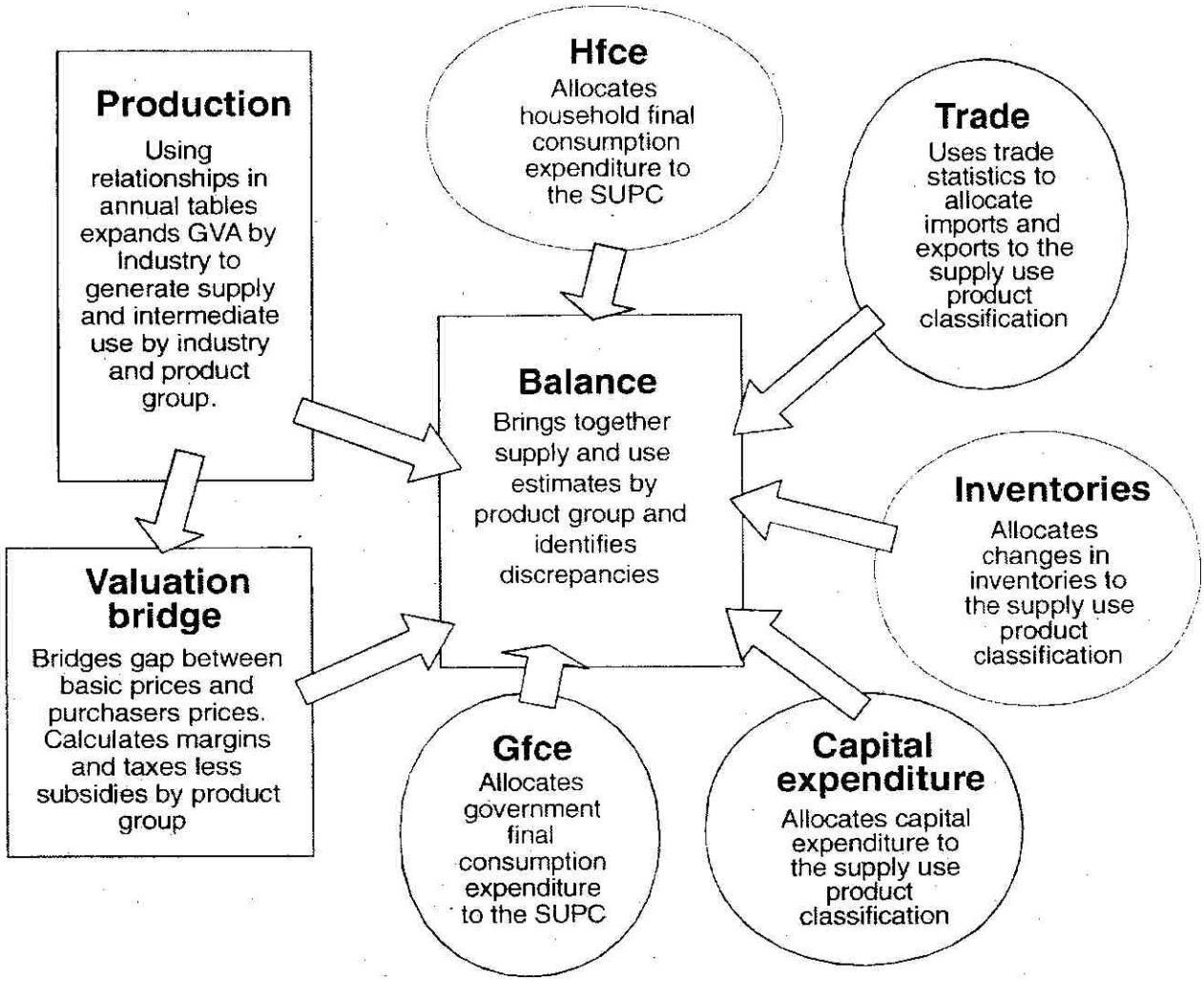
8. The QSU model is built around the supply and use relationships in the reference year annual supply use tables. By and large, the input data are the existing QNA outputs together with a limited amount of additional primary data, such as imports and exports data by product. Using these data, the model generates the additional detail required to complete the supply and use tables for each quarter of the estimation period. It assumes that the supply and use relationships in the annual tables hold over the QSU estimation period. Subject to that key assumption, the tables are used to identify discrepancies between the supply and use of products which can then be investigated and resolved as far as possible prior to publication. The reference year supply and use relationships are brought forward annually in the June quarter and are used until the March quarter of the following year.

9. To accommodate the time dimension of the QNA, the QSU tables have been configured as time series. Supply and use tables are conventionally presented as two tables, a supply table showing the supply of products by industry of origin, and a use table showing the intermediate use of products by industry and final use by type of expenditure. The tables relate to a single time period, usually a year. This type of presentation is designed primarily for cross sectional analysis of relationships between industries and products, but is not ideal in an environment where changes in economic activity over time are the main focus of interest.

10. In the QSU model the two basic tables have been expanded to create a suite of interrelated tables with each table having a time dimension covering the total estimation period. The model includes separate tables for supply and intermediate consumption by industry and the various final expenditure aggregates. Trade and transport margins and net taxes on products form a bridge between supply at basic prices and use at purchasers' prices and have separate tables. The estimates from the various tables feed into balancing tables showing the supply and use of products, and the discrepancies between total supply and total use.

11. The model is based on the national accounting identity that, in concept, GDP calculated by the production approach is equal to GDP calculated by the expenditure approach. GDP calculated by the production approach is equal to the value of goods and services produced (output) less the cost of goods and services used up in the production process (intermediate consumption). In the Australian national accounts output is measured in basic prices and hence taxes less subsidies on products must be added to obtain GDP at purchasers' prices. GDP as estimated by the expenditure approach is equal to the sum of all

final expenditures, changes in inventories and exports less the value of imports of goods and services. The chart below shows the main elements of the QSU model and the flows into the balancing tables.



12. The QSU tables are compiled using an aggregated version of the supply and use product classification (SUPC) used in the annual supply and use tables. For the purposes of the QSU model the data are classified in two views, a product view and a broad purpose view, both derived from the SUPC. The two views complement each other; the product view facilitates identification of anomalous movements in the industry based supply data while the purpose view focuses on the use of products and household final consumption in particular. The product view of the QSU model includes 33 product groups (representing the characteristic output of the 33 industries in the QNA). The purpose view includes 24 broad purpose categories related to the purpose classification of household final consumption expenditure used in the QNA. The components of supply and use, classified by product group, are confronted in balancing tables. The difference between the two is shown as a discrepancy.

13. The table below uses the balancing table for health products to illustrate the format. Health products are a relatively simple group, with most supply being in the form of services provided by the health industry and use being dominated by government and household final consumption expenditure.

Supply and use of health services
Chain volume measures

	2001–02	Sep 02	Dec 02	Mar 03	Jun03	Sep 03	Dec 03	Mar 04
Total use	**66258**	**16915**	**17235**	**17405**	**17646**	**17772**	**17988**	**18024**
Intermediate use	8216	2109	2105	2167	2127	2131	2185	2177
Household final consumption expenditure	21428	5610	5726	5810	5889	5943	6024	6028
Government final consumption expenditure	32162	8216	8378	8400	8469	8494	8571	8587
Gross capital formation[(a)]	1820	371	406	392	403	422	419	415
Exports	2632	610	619	635	758	783	789	816
Total supply	**66258**	**17205**	**17217**	**17476**	**17558**	**17804**	**18209**	**18362**
Domestic supply	51619	13330	13405	13571	13511	13622	13853	13812
Imports	6359	1680	1627	1686	1827	1881	2011	2165
Margins	7951	2111	2100	2134	2134	2211	2255	2296
Net taxes	329	85	85	84	86	89	90	90
Discrepancy	*0*	*290*	*-18*	*71*	*-87*	*32*	*220*	*338*

(a) Includes private and public fixed capital formation and changes in inventories.

14. The first column of data shows the 2001–02 balanced reference year, and subsequent columns show a quarterly time series from the September quarter 2002 to the March quarter 2004. The intermediate use and domestic supply of health products are generated in the production block of the model based on the output and intermediate consumption of those industries producing and using health services and related products. Although most health services are produced by the health industry, some health related products such as pharmaceuticals and medical equipment, are produced by manufacturing industries. Data on final consumption expenditure, gross capital formation, and trade in health products, come from the relevant expenditure blocks of the model. The table indicates that the production and expenditure based estimates are reasonably consistent and that health services are unlikely to be contributing significantly to the statistical discrepancy in the QNA.

The editing process using the QSU model

15. As mentioned, the editing of the national accounts is an iterative process, involving the review of preliminary results, the identification and investigation of anomalies and the correction of errors. This process is repeated until the accounts are deemed to be at the standard required for publication. The QSU tables assist this process by identifying possible errors more systematically throughout the accounts than was previously possible.

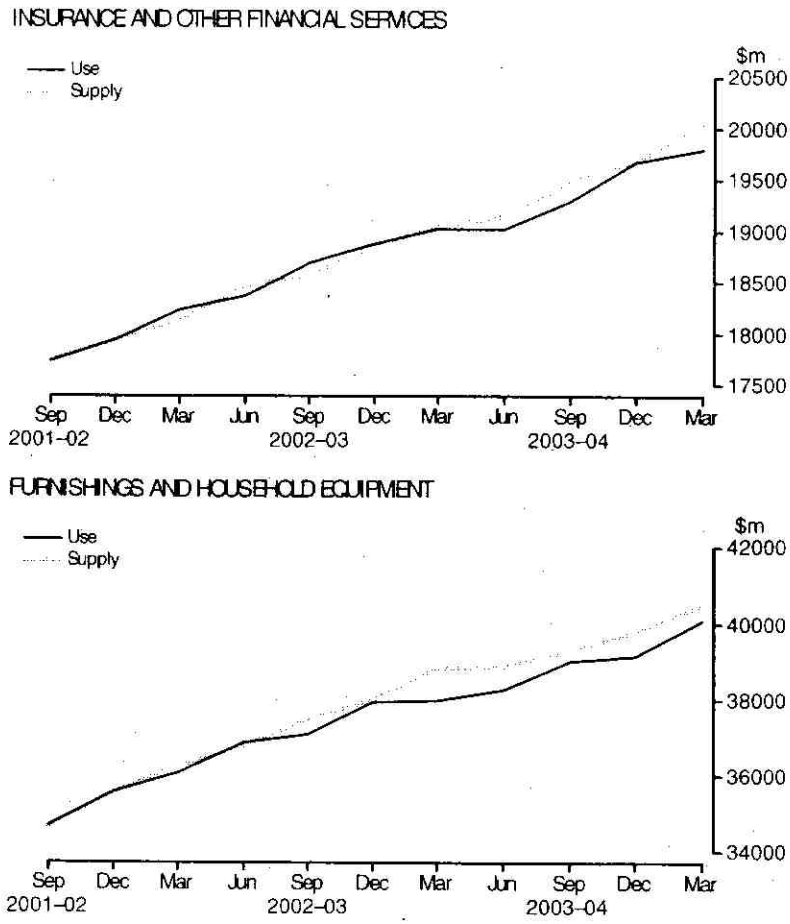
16. The most simple product groups to edit are those originating largely from a single industry or from imports, and which have a limited range of uses. An example of this kind of product is financial services. Most financial services originate from the finance and insurance industry, and the services are used largely for household and intermediate consumption. For such a product group it is relatively easy to identify the source of any imbalances between supply and use.

17. At the other end of the spectrum are products where supply comes from a range of sources, and which have a wide variety of uses. An example is machinery and equipment. The supply of machinery and equipment comes from both domestic and imported sources, it is used for final consumption (e.g. private motor vehicles), intermediate consumption (e.g. spare parts) and capital expenditure (e.g. industrial machinery). In addition, inventories of machinery and equipment are subject to significant change in response to movements in supply and demand. In between these extremes, products range in complexity and the problems they present for editing.

18. With complex product groups, because of the diverse sources of supply and range of uses, it can be difficult to pinpoint the source of discrepancies and to satisfactorily resolve them. In some cases structural problems are indicated which may be resolved when more detailed data become available for the annual supply and use balancing. Structural changes affect the composition of supply and the level and composition of intermediate consumption.

19. There are limitations of the model that have to be taken into account when it is being used as an editing tool. This is because a large number of data cells are generated within the model, rather than from actual data. Any deviations between the actual supply and use relationships in the quarter and that applying in the base year would be incorrectly reflected as statistical discrepancies in the QSU results. In other words, the discrepancies generated within the model are themselves subject to a margin of error. The potential for such error is minimised when using seasonally adjusted chain volume data because the underlying supply and use relationships are expected to change only slowly over time, although it could still be significant for some products. The results have to be interpreted as 'indicative' information and are a guide to potential anomalies worthy of further investigation in the editing process.

20. Graphs are used to facilitate the quick identification of anomalies between the supply and use of products. The graphs below illustrate the supply and use of two of the product groups derived within the QSU model using data published in the QNA. The graphs indicate the supply and use of those products after editing. They show a strong correlation between supply and use and indicate the residual statistical discrepancies.



Future developments

21. The quarterly supply and use model has made a significant contribution to improving the quality of the quarterly national accounts statistics by identifying inconsistencies between the production and expenditure based estimates of GDP. It is an evolving system, and is still experimental in nature. Further work will be done to investigate discrepancies between the supply and use of complex product groups with a view to improving the internal consistency of the QNA. For some of these products, for example machinery and equipment, this investigative work is likely to take some time to achieve the potential benefits. Work will also proceed on the development of experimental QSU tables in current prices and to extend the system to incorporate the income based measure of GDP.

For Official Use

STD/NAES(2004)22

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

06-Oct-2004

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)22
For Official Use

National Accounts and Economic Statistics

REPORT OF 2004 OECD SOFTWARE SURVEY

This paper has been prepared by Charles ASPDEN - OECD (Statistics Directorate)

WORKING PARTY ON NATIONAL ACCOUNTS

To be held on 12 - 15 October 2004
Tour Europe, Paris La Defense

Beginning at 9:30 a.m. on the first day

For further information please contact:
Charles Aspden
E-mail: charles.aspden@oecd.org

JT00170914

English - Or. English

REPORT OF 2004 OECD SOFTWARE SURVEY

Introduction

1. One of the changes made in the 1993 SNA was the recognition of software as a fixed asset if it met the standard criteria. While this was a welcome development it led to problems in international comparability because countries implemented the change differently. Countries have had different concepts of what software is, what constitutes capital formation and intermediate consumption, and have adopted different approaches to measurement.

2. In October 2001 an OECD task force was set up to address the issue, and one of its first actions was to conduct a survey of member countries. The survey had several aims:

a) to identify what the conceptual treatments were in countries and the rationale for them,

b) to determine the different methods being used to quantify the various software flows (GFCF, trade in software, etc.) and what might constitute best practice,

c) to determine how countries compiled price indexes for deflating software and what might constitute best practice, and

d) to quantify the differences in estimates.

3. A Eurostat task force worked in parallel, and together the two task forces developed a common set of recommendations. In 2002, at the National Accounts Expert Meeting, the OECD task force presented its report, which can be found on the OECD website. The report showed that in some cases the differences between country practices and estimates were quite dramatic.

4. Have countries taken note of the recommendations made by the task force? Have things improved in the last two years? In order to shed some light on this matter, a small follow-up survey was conducted in mid-2004 to determine whether country practices have changed over the last few years and, if so, what has been the impact. 16 member countries replied to the survey and provided data.

Results

Questions 1 and 3

Have you changed the way you derive your estimates of software gross fixed capital formation (GFCF), exports and imports since 2001? If so, in what way have they changed?
Do you intend to change the way you derive your estimates of software GFCF, exports and imports? If so, could you please describe what you intend to do and when.

Table 1. Changes made to estimates since 2001

Country	Changes made	No changes made but some are planned	No changes made and none are planned
Belgium		Changes to own account	

		are to be introduced in 2005. They comprise including a mark-up for GOS and including intermediate consumption.	
Canada			X
Czech Republic	Mark-up factor for GOS introduced for estimating own account. Further changes planned.		
Finland		Work on revising the estimates, as per the TF recommendations, is underway. Substantial revisions to own account production and exports are likely.	
Germany			X
Greece			X
Italy	Some changes made, but more substantive changes with the incorporation of the new benchmark are planned for 2005		
Japan	Some changes already made. Will review estimates with the shift to the new benchmark year (2000)		
Korea	Adopted the TF recommendations in 2003		
Mexico			May make changes in the future
Netherlands		Will introduce new methods for estimating GFCF with the forthcoming benchmark revision	
New Zealand		Preliminary estimates applying the TF recommendations result in very substantial changes – see the report	
Poland		Currently there are no separate estimates of software GFCF –they	

		are included in aggregate intangibles. From 2003, the GFCF survey will separately identify software purchases (data available later this year). Plans to estimate own account production.	
Slovak Republic			X
Sweden		Minor change made, but more substantive changes are in train for estimating own account production.	
US	Substantial improvements made.		

5. It would appear that the work of the OECD and Eurostat task forces has had a considerable impact. It is evident that it has inspired the 11 countries (of the 16 responding to this survey) that have either made changes in their methods or have firm plans to do so.

Question 2

If you are able to quantify the changes you have made, please do so.

6. Two countries, New Zealand and the US, that have made, or are intending to make, changes to the way they estimate software have reported the size of the impact.

7. Preliminary estimates for New Zealand, made as per the TF recommendations, lead to an estimate of GFCF of software for 2002 of $1,716.5 million compared to the currently published estimates (derived using the demand approach) of $666.9 million. The new estimate is 1.39 per cent of GDP.

8. For the US several improvements have been made since 2001 (values in parentheses indicate the estimated revision to GFCF of software attributable to the change in selected years):

- Software originals used for reproduction are now capitalized. ($19.4B in 2001, $7.8B in 1997, $3.2B in 1992, $1.1B in 1987.)
- More direct method for estimating own-account software. ($-14.9B in 1997, $-6.1B 1992, $-3.5B in 1987, $-1.8B in 1982.)
- Estimates of intermediate consumption of software (embedded or bundled with other equipment) were improved for pre-packaged software and introduced for the first time for custom software. ($-8.0B to pre-packaged software in 1997 and $-3.9B to custom software in 1997.)
- Coverage of international trade in software was expanded to include trade in services ($-3.7B and $-6.4B to pre-packaged software in 1997 and 2001, respectively. $-0.2B and $0.3B to custom software in 1997 and 2001, respectively.)
- Improved price index for own-account. Price now reflects weighted average of input-cost index and PPI for packaged software. (The average downward revision in percent change was 3.5 percentage points.)

Question 4

Please provide estimates of total (business and government) GFCF and intermediate consumption of software for 2001, 2002 and 2003, with estimates of GFCF broken down, if possible, into purchased software and own-account software.

Table 2. Estimates of GFCF and intermediate consumption as a percentage of GDP, 2003

Country	Own account	Purchased	Total GFCF	Intermediate consumption
Belgium	0.6	0.2	0.8	n.a.
Canada	0.4	0.8	1.2	0.05
Czech Republic	n.a.	n.a.	1.1	0.7
Finland	0.5	1.3	1.8	0.2
Germany	0.3	0.6	0.9	1.9 (2002)
Greece	n.a.	n.a.	0.5	0.1
Italy	0.3	1.1	1.5	3.6
Japan (1)	0.0	1.5 (2002)	1.5 (2002)	0.3 (2002)
Korea	n.a.	n.a.	1.5	0.2
Netherlands	0.5	0.9	1.5	1.6
New Zealand	n.a.	n.a.	0.5	n.a.
Sweden	0.5 (2001)	1.9 (2001)	2.1	0.4 (2001)
US	0.7	1.0	1.7	n.a.

(1) At present, only custom-made software is recorded as GFCF in the Japanese national accounts. Purchases of general purpose software are recorded as intermediate consumption and own account software is not estimated.

9. It would appear from Table 2 that there remain substantial differences between countries in their estimation of software expenditures, demonstrating a need for further investigations and improvements .

Question 5

Please provide annual values of the implicit price deflator of software GFCF from 1995. If possible, show the deflators for purchased software and own-account software, separately.

Table 3. Price indexes for software GFCF (1995 = 1.0)

Country	1995	1996	1997	1998	1999	2000	2001	2002	2003
Belgium	1.0	1.03	1.05	1.06	1.08	1.10	1.10	1.06	0.98
Canada	1.0	0.98	0.96	0.94	0.93	0.96	0.99	0.97	0.92
Czech Republic	1.0	1.04	1.07	0.99	0.91	0.94	0.92	0.95	n.a.
Finland	1.0	1.05	1.07	1.10	1.13	1.25	1.29	1.26	1.18
Germany	1.0	0.96	0.94	0.91	0.87	0.86	0.85	0.85	0.83
Italy	1.0	1.03	1.06	1.07	1.10	1.14	1.19	1.19	1.19
Japan (1)	1.0	1.00	1.03	1.06	1.07	1.07	1.08	1.09	n.a.
Korea	1.0	1.04	1.12	1.21	1.17	1.17	1.18	1.20	1.22
Netherlands	1.0	1.05	1.05	1.03	1.03	1.03	1.04	1.04	1.03
New Zealand	1.0	0.97	0.96	0.96	1.01	1.02	1.09	1.12	1.08
Sweden	1.0	1.04	0.96	1.01	0.98	1.00	1.00	0.98	0.91
US	1.0	0.98	0.95	0.92	0.93	0.96	0.96	0.95	0.93

(1) The Japanese price index relates to the output of the Japanese software industry.

10. The table indicates quite a wide dispersion in the growth rates of the software price indexes, with those of Korea, Italy and Finland showing growth averaging about 2.3% a year. At the other extreme is Germany with its price index declining by 2.3% a year on average. In between these extremes, the indexes of the US and Canada show a slow decline, while that of the Netherlands shows a slow rise. In making such comparisons it should be borne in mind that general inflation rates vary between countries, and there could also be exchange rate movements that influence the prices of imported pre-packaged software.

11. Table 4, below, shows price indexes for purchased software and own account produced software for Canada, Italy and the Netherlands. The US data are more detailed, with price indexes for pre-packaged software, custom-made software and own account software for business, federal government and state and local government, respectively. The US BEA has recently revised how it derives its price indexes for own account software such that they are now a weighted average of the input cost index for the sector and the PPI for pre-packaged software. This methodological revision led to the annual growth rate being revised down by 3.5 percentage points on average.

Table 4. Price indexes for components of software GFCF (1995 = 1.0)

Country	1995	1996	1997	1998	1999	2000	2001	2002	2003
Canada purch	1.0	0.96	0.93	0.9	0.88	0.90	0.91	0.89	0.82
Canada own	1.0	1.02	1.07	1.08	1.09	1.15	1.21	1.23	1.26
Italy purch	1.0	1.06	1.10	1.08	1.10	1.13	1.21	1.18	1.21
Italy own	1.0	1.02	1.05	1.06	1.10	1.14	1.18	1.20	1.19
Netherlands purc	1.0	1.03	1.01	1.03	1.03	1.03	1.04	1.04	1.03
Netherlands own	1.0	1.07	1.06	1.02	1.04	1.03	1.03	1.03	1.03
US prepackaged	1.0	0.94	0.86	0.8	0.78	0.78	0.76	0.73	0.67
US custom made	1.0	0.99	0.99	0.98	1.01	1.05	1.07	1.06	1.07
US bus own	1.0	0.99	0.99	0.98	1.02	1.06	1.08	1.07	1.08
US Fed gov own	1.0	1.02	1.03	1.06	1.08	1.13	1.17	1.20	1.23
US S&L gv own	1.0	1.01	1.02	1.03	1.05	1.09	1.12	1.13	1.16

Question 6.

Do you capitalize expenditure on databases? If so are they just large databases or all databases? Are the estimates separable from your software estimates? If so can you please provide estimates of GFCF for 2001, 2002, and 2003.

12. The reporting countries fell into two groups: those that exclude databases from their estimates of GFCF (group A) and those that make combined estimates of GFCF of software and databases (group B).

13. The group A countries comprise Belgium, Canada, Czech Republic, Finland and Italy.

14. The group B countries comprise Germany, Greece, Japan, Korea, the Netherlands, Slovak Republic, Sweden, New Zealand and the US.

15. Several countries in group B indicated that they included databases in GFCF in principle, but had little idea of the extent.

Question 7.

Are you able to provide annual estimates of:
a) exports of software, and
b) imports of software?

If so, please provide estimates for 2001, 2002 and 2003.

Note - software trade may be taken to have three significant components:-

i. software goods - approximately represented by the standard grouping of HS codes 852431, 852440, 852491, 852499

ii. software in computer services - (all or most of) BOP code 263

iii. software royalties and license fees - part of and to be separately identified from royalties and license fees - BOP code 266

Table 5. Exports and imports of software as a percentage of GDP, 2003

Country	Exports	Imports
Canada	0.22	0.17
Czech Republic	0.07	0.19
Finland	0.27	0.33
Germany	0.27	0.30
Greece	0.15	0.36
Italy	0.06	0.18
Japan (2002)	0.006	0.01
Korea	0.08	0.14
Netherlands	0.12	0.15
Slovak Republic	0.02	0.03
Sweden	0.50	0.30
US	0.10	0.02

16. The substantial variation in the data reported by countries and the metadata reported by some of them suggests that some countries, at least, are unable to quantify all the components of exports and imports described in the question.

Conclusion

17. It is encouraging that many OECD countries are endeavouring to improve their estimates of software GFCF and following the OECD and Eurostat task force recommendations. However, it is clear that there remains much to be done before software statistics can said to be truly comparable.

For Official Use

STD/NAES(2004)12

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

30-Sep-2004

English - Or. English

STATISTICS DIRECTORATE

STD/NAES(2004)12
For Official Use

National Accounts and Economic Statistics

SOFTWARE INVESTMENT IN THE NEW ZEALAND NATIONAL ACCOUNTS

PROGRESS REPORT ON REVISED ESTIMATES BASED ON THE RECOMMENDATIONS OF THE 2002 OECD TASKFORCE ON SOFTWARE MEASUREMENT

This document has been prepared by Jeff COPE - Statistics New Zealand

WORKING PARTY ON NATIONAL ACCOUNTS

To be Held on 12 - 15 October 2004

Tour Europe, Paris La Defense
Beginning at 9:30 a.m. on the first day

For further information please contac:
Jeff Cope
E-mail: jeff.cope@stats.govt.nz

JT00170328

English - Or. English

SOFTWARE INVESTMENT IN THE NEW ZEALAND NATIONAL ACCOUNTS

PROGRESS REPORT ON REVISED ESTIMATES BASED ON THE RECOMMENDATIONS OF THE 2002 OECD TASKFORCE ON SOFTWARE MEASUREMENT

1. The New Zealand national accounts adopted the SNA93 standard on the capitalization of software expenditure in 2000.The existing methods are entirely based on a demand approach. The discussion below is restricted to the derivation of annual, current price estimates of software expenditure. Quarterly and constant price series are not discussed. The revised series, based on the OECD recommendations[1] are work-in-progress and further refinement is expected over the next few months – however, they are sufficiently advanced to indicate the likely size of possible revisions when they are adopted

Existing software investment series

2. For the private sector, the key data source is the Annual Economic Survey, which is a sample survey of almost all businesses in NZ classified to non-agriculture industries. The survey collects a full range of data on financial performance (profit and loss, fixed asset purchases and sales and balance sheet). Since 1997 the fixed asset section of the questionnaire has asked respondents to provide data on purchases of software. It is not possible to distinguish between the three components of software: off-the-shelf, customized and own account.

3. Respondents will generally base their replies on their financial accounts prepared for the Inland Revenue Department (the taxation authority) and accordingly will conform to taxation guidelines. These define computer software as "an intangible asset and depreciable property. Software is defined as copyright in software, the right to use software, and the right to use copyright in software." The definition is further expanded to include all programs, routines, documentation and training materials. The classification of "research and development of software" (which will include own account software) is less specific and would allow certain research expenditures to be written of. The treatment of databases is not mentioned.

4. While we expect that most businesses will capitalise high-value purchases of off-the-shelf software and (possibly) customized software, small /medium value purchases and own account developments are likely to be expensed. Nevertheless, the survey responses have been used in the national accounts, largely unadjusted.

5. Central and local government software purchases are estimated from their financial accounts, either directly for central government via access to accounting records or indirectly for local government via an annual economic census (similar to the Annual Enterprise Survey above). In NZ, both levels of government have adopted accrual accounting and identify and depreciate assets in their balance sheets.

[1] Report of the OECD Task Force on Software Measurement in the National Accounts, STD/NA(2002)2, OECD Statistics Directorate

Nevertheless, not all software expenditure will be capitalized and even identifying this expenditure separately in the accounting records is not straightforward as it is often included in an "other assets" category. The accuracy of the capitalized software estimates for government would be similar to that derived for the private sector.

6. The published series for software investment are given below. These are at the very low end – as a percent of GDP – of the national figures provided in the OECD report.

Year	Software GFCF ($m)	as a % of GDP
1999	542.1	0.53
2000	641.0	0.59
2001	689.2	0.60
2002	666.9	0.54
2003	699.5	0.54

Revising the Published Series using the OECD Supply Approach

7. Given our concerns regarding the completeness of the existing software statistics, the opportunity has been taken to adopt and adapt the OECD recommendations on estimating gross fixed capital expenditure on software using a supply approach.

Purchased software

8. The OECD approach is summarized in the following table:

Value of sales of capitalisable software services (SIC 73.71 + 73.72;CPA 72.20.2 + 72.20.31 + 72.20.33 + 72.20.34), incl. royalties and license fees, incl. games	A
Inclusion of imports	B
Inclusion of trade margins and taxes on domestic supply and imports	C
Exclusion of software embedded by hardware industry (50% of purchases of pre-packaged software by hardware industry), treated as intermediate consumption	D
Exclusion of sub-contracting flows between "software companies"	E
Exclusion of household consumption in games and other pre-packaged software	F
Exclusion of exports	G
Exclusion of maintenance (CPA 72.20.34, 10-15% of SIC 73.71)	H
Total GFCF in purchased software	A+B+C-D-E-F-G-H

9. A key supply side source used for the revised estimates is the Information Technology (IT) Survey. The IT survey is an annual survey first conducted in 1994. The survey population is not restricted to specific ISIC codes (ANZSIC in the NZ context) and covers units engaged in computer wholesaling, telecommunication services, data processing services, information storage and retrieval services, computer maintenance services and computer consultancy services. Sales data is broken down into a number of categories including software and computer services, and these are further analysed into: (i) sales to NZ end-users (ie excludes sales for on-selling); (ii) sales to other NZ customers; and (iii) exports.

10. Sales of off-the shelf software. The sales breakdowns in the survey eliminate the need to separately estimate steps A, C, D, E and G in the OECD table. The sales to end-users is the appropriate category and will exclude sub-contracting and sales for embedding in hardware. Margins will be included in the sales values and exports are specifically excluded.

11. Imports. Some NZ businesses will import software directly for their own use. This will enter NZ either (a) as packaged software on CD or DVD or (b) will be downloaded from the internet. For (a) imports of software on disc are included in merchandise trade statistics. Investigation has shown that these correctly capture the value of the content and not just the media. The imports were analysed by industry of importer to eliminate all imports made by wholesalers, retailers and manufacturers likely to be importing to embed in hardware. For years post 1997, the percentage of imports destined for own use has varied between 16-20% of the relevant import codes. This amount has been declining over the years, probably reflecting increasing internet downloads and domestic supply. No information is available on internet downloads and no estimate is yet included in the revised series[2].

12. Household purchases. Sales of off-the-shelf software need to be excluded from the IT Survey data. Households will often purchase their software from the same outlets as business. Household purchases have been estimated from the 2001 Household Expenditure Survey (HES), which indicates households purchase approx. 5.4% of IT sales to end-users. This will exclude software bundled with hardware. The deduction will be re-estimated with each three-yearly HES.

13. Maintenance. It is assumed that software purchased off-the-shelf will not be used for maintenance.

14. Revised estimates.

NZ Application of OECD Supply Approach : Off-the-shelf Software			
New Zealand	**Assumptions**	**OECD**	**2002 $m**
IT sales to end-users		A+C-D-E-G	484.2
+ Imports for own use	20% of imports of IT commodities are for own use	B (part)	12.4
	internet downloads for own use – no data and entered as nil in table	B (part)	0.0
	Possible correction to value of direct use imports based on ITSS data on software royalties /licences (still being reviewed)	B (part)	est. 50.0
- Household purchases	5.4% of IT sales to end users	F	25.4
- Maintenance	Assumed nil	H	0
Total		A+B+C-D-E-F-G-H	521.2

Customised software

15. Sales of customized software. The IT Survey includes sales of "computer services" which includes, inter alia: systems analysis; design and programming; systems integration; software

[2] However, from the balance of payments, data is available on trade in services and royalties. An annual survey (the International Trade in Services Survey, ITSS) collects data on (i) imported computer services and (ii) royalties and licence fees for computer software. The latter will include payments for off-the-shelf software for own direct use, on-selling, or reproduction and will presumably capture the value of imported software included in (a) trade imports and (b) internet downloads. While analysis of (ii) is not yet complete, it is hoped that it will prove a superior source of data and will be used to supplement or replace the estimates currently made for (a) and (b).

maintenance; data entry, processing and time sharing; information network and database services; hardware and systems servicing and repairs; and installation services. Not all of these relate to design and production of customized software – however, it is not possible to obtain a finer breakdown (survey questionnaire changes are planned). In the absence of this breakdown, 50% of sales of "computer services" are assumed to relate to customised software. This is thought to be a conservative estimate, given the known activities of the survey respondents. As with purchased software, the IT survey sales item accounts for A, C, D, E and G in the OECD table.

16. Imports. The balance of payments ITSS collects data on imports of computer services. From a small, follow-up survey it is estimated that 60% of these imports are for customized computer services.

17. Household expenditure. Unlikely to involve customized software, therefore assumed nil.

18. Maintenance. The IT Survey computer services category includes maintenance receipts and needs to be excluded. In the absence of a detailed breakdown, 15% of IT Survey sales are assumed to be for maintenance. (The OECD approach recommends 15% of SIC 73.71 be deducted for maintenance).

19. Revised estimates.

NZ Application of OECD Supply Approach : Customised Software			
New Zealand	**Assumptions**	**OECD**	**2002 $m**
IT computer services	50% of IT Survey sales of "computer services"	A+C-D-E-G	920.1
+ Imports for own use	60% of ITSS imports of computer services	B	81.6
- Household purchases	Assumed nil	F	0
- Maintenance	15% of IT Survey sales of "computer services"	H	276.0
Total		A+B+C-D-E-F-G-H	725.7

Own account software

20. The OECD recommendation can be summarized in the following table:

Number of software professionals	
* average compensation	
= Labour cost of software professionals	A
Exclude labour cost linked to the production of software to be sold	C
Exclude labour cost linked to maintenance, management etc.	D
Plus non-labour costs of software professionals producing own-account software	B
Total macro estimate of own-account software	A-C-D+B

21. Earnings of software professionals. The 1996 and 2001 Censuses of Population were used to obtain (a) the number of persons coded to occupations *systems analyst, computer applications engineer and computer programmer* (NSCO codes 21311, 21312 & 21211. Very similar in coverage to ISCO 2131, 2132 & 2139) and (b) median personal income for these occupations. Estimates for non-census years were interpolated using the number of employees in industry Computer Consultancy (L7834 in the ANZSIC) for (a) and earnings data from the annual NZ Income Survey for (b).

22. Labour cost linked to the production of software to be sold. From the IT Survey, software sales were dominated by two industries, F4613 Computer Wholesaling and L7834 Computer Consultancy.

From the two Population Censuses, approximately 35% of software professionals were employed in these industries. In the absence of other information, it is assumed that 35% of software professionals are linked to software sales, rather than the development of own-account software.

23. Labour cost linked to maintenance, management etc. Based on US data, the OECD recommends assuming that 50% of software professionals' time is spent on tasks other than developing software. This assumption is adopted here.

24. Non-labour costs. No data exists on which to base this estimate. For countries in the OECD study, the ratio of non-labour costs to labour costs ranged between 0.46 to 1.02, with Denmark being an outlier at 1.50. For this study, a very conservative ratio of 0.50 has been adopted.[3]

25. Revised estimates.

NZ Application of OECD Supply Approach : Own–account Software			
New Zealand	**Assumptions**	**OECD**	**2002 $m**
Number of software professionals	Limited to occupations in NZCO 21311, 21312, 21211		
* average compensation			
= Labour cost of software professionals		A	963.4
Exclude labour cost linked to the production of software to be sold	35% of software professionals	C	337.2
Exclude labour cost linked to maintenance, management etc.	50% of remaining software professionals [0.5* 0.65= .325]	D	313.1
= Labour cost of own-account software production		A-C-D	313.1
Plus non-labour costs of software professionals producing own-account software	50% of labour costs	B	156.5
Total		A-C-D+B	469.6

Summary

26. Adopting a supply approach based on the OECD recommendations leads to a revised estimate of software GFCF of $1,716.5m. for 2002, compared to the published demand approach total of $666.9m. The new figure suggests that the amount of software purchases being expensed in business accounts is larger than initially thought. The new estimate is approximately 2.5 times higher than that published and is 1.39 percent of GDP. This is much more in line with other OECD countries and similar (but still below) the Australian percent of 1.5+% (from the OECD report).

27. The share of own-account software to total software development in the revised figures is 27.4%. This is similar to the average of 31.3 % for the countries listed in the OECD report..

[3] This ratio is still under review and may be too low. The Annual Economic Survey data for industry L7830, Computer Services, indicates that the ratio of purchases and other operating expenses to salaries and wages is approximately 2.0. However, this may be influenced by purchases of software for resale. Further analysis of individual business accounts is needed before any conclusions on the ratio can be drawn.