STATISTICS

WS.6 – Accounting for the Economic Ownership and Depletion of Natural Resources

MARCH 2023

Advisory Expert Group – National Accounts

Overview

Testing approach

- **Draft questionnaire,19 questions in two parts:**
  1. *Can NR assets be split?*
  2. *How should appearances and changes in asset ownership be recorded*

- **Group of eight countries selected**
  - Direct participation by Australia, Canada, Norway (**Group 1**)
  - Proxy testing by IMF Statistics Dept (STA) using data for Guyana, Liberia, Mauritania, Nigeria, Senegal (**Group 2**)

- **Group 1 –** already make detailed natural resource estimates in national accounts, data already (mostly) held by NSOs

- **Group 2 –** made mainly using detailed fiscal and public Field Development Plan data and projections generated during IMF technical assistance on fiscal planning/forecasting; such data are public, so open to use by NSOs

- **Testing started late 2022, concluded mid-Feb 2023**

14th Meeting of the Advisory Expert Group on National Accounts,
5-9 October 2020, Virtual Meeting

Agenda item: 6.2

Accounting for Economic Ownership and Depletion of Natural Resources

Introduction

So far the accounting practice in several countries has shown that the default option offered by the 2008 SNA to assign ownership of natural resources to the legal owner, in most countries government, is not satisfactory, particularly not when breaking down the natural resource accounts by institutional sector. In practice the risk and rewards of natural resource ownership are often shared between private and public parties. SEEA 2012 Central Framework (SEEA CF) seems to advocate a "partitioning" of the relevant assets. This apparent difference between two international standards and other issues raise the question on how one should account for the ownership of natural resources.

A related issue concerns the recording of depletion. While SEEA CF recommends a recording of depletion as a cost of production, the 2008 SNA ignores these costs and accounts for depletion as a so-called "other change in the volume of assets". In this respect, depletion is often confined to the run-down of non-renewable mineral and energy resources. One wonders though whether this notion of depletion (or degradation) should not be extended to other natural resources as well.

Furthermore, related to the previous point, one should also acknowledge the longstanding discussion on advocating net instead of gross income and saving as indicators deserving a much more prominent role, certainly as compared to gross indicators, such as gross domestic product (GDP). This call for net indicators makes one wonder whether the recommended net recording in the SNA should also address natural resource depletion. In other words, should depletion (and depreciation) adjusted income and saving be introduced in the system of national accounts, and promoted as the more prominent macro-economic indicators?

Part 1 – Is it feasible and meaningful to split natural resource assets using the SEEA method elaborated in the WS.6?

Generally, yes:

Group 1-

- ✓ *Australia – "Yes, for some commodities. The results of the exercise demonstrate that the split asset approach is feasible for iron ore, copper, gold and antimony and lithium. However, the quality of the results for black coal and LNG is low. The ABS would prefer to obtain alternate data sources for government allocations before recommending that the estimates appear in our balance sheets"*

- ✓ *Canada, Norway – both "Yes"*

Group 2-

- ✓ *(IMF STA view) – Yes. Although necessary data on existing and projected govt revenues and exploration, evaluation and extraction were obtained indirectly for the exercise (via the IMF Fiscal Affairs Dept.'s 'Fiscal Analysis of Resource Industries' (FARI) modeling work), the data and assumptions could be obtained/made by NSOs.*

1.10 Do you think the asset split is practically feasible?

1.11 Do you think it leads to meaningful results?

1.12 If your answer to question 1.3 is yes, would you be able to make assumptions about (a) the future extraction of natural resources not yet subject to operation as well as (b) the distribution of their future resource rents streams? Please explain.

1.13 Do your testing results also address mining activities conducted by the sector households (S.14). If so, please explain how in such cases resource rents and their split are being calculated.

Part 1 – Is it feasible and meaningful to split natural resource assets using the SEEA method elaborated in the WS.6?

Yes - but…

Group 1-

- ✓ ***Australia – yes for <u>some</u> commodities. Further data and analysis would be needed for others***

- ✓ ***Canada – "We are not sure if it is meaningful to sector some elements like extraction. This may imply that the extraction itself is undertaken by the government sector when this is not actually the case…[but]…Overall, the asset split does seem meaningful as a valuation of expected income streams. This type of sectoring could also capture material changes in the terms of the royalty agreement…"***

Group 2-

- ✓ ***(IMF STA view) – Yes, though note that FARI approach looks at major individual projects, so would need to consider plurality of national extraction activities in case others of significance.***

1.10 Do you think the asset split is practically feasible?

1.11 Do you think it leads to meaningful results?

1.12 If your answer to question 1.3 is yes, would you be able to make assumptions about (a) the future extraction of natural resources not yet subject to operation as well as (b) the distribution of their future resource rents streams? Please explain.

1.13 Do your testing results also address mining activities conducted by the sector households (S.14). If so, please explain how in such cases resource rents and their split are being calculated.

Part 1 – Is it feasible and meaningful to split natural resource assets using the SEEA method elaborated in the WS.6?

Yes

Group 1-

✓ *Australia – "…Yes…We support using an average of the distribution of resource rents observed over a long time period. This average could be used to distribute future income flows (allowing for known future changes to extraction allocations).*

✓ *Norway – "A simple assumption may still be made by using the same distribution key (the long-term average government share in resource rent) to split, e.g., 'other changes in volume', as well as 'revaluation', between institutional sectors.*

Group 2-

✓ *(IMF STA view) – Yes. The Field Development Plan data used projects dynamic extraction rates, sales revenues and costs (including terminal costs) to the expected end of viable production. Equally, government revenues are also projected based on existing and intended future arrangements*

1.10 Do you think the asset split is practically feasible?

1.11 Do you think it leads to meaningful results?

1.12 If your answer to question 1.3 is yes, would you be able to make assumptions about (a) the future extraction of natural resources not yet subject to operation as well as (b) the distribution of their future resource rents streams? Please explain.

1.13 Do your testing results also address mining activities conducted by the sector households (S.14). If so, please explain how in such cases resource rents and their split are being calculated.

Part 1 – Is it feasible and meaningful to split natural resource assets using the SEEA method elaborated in the WS.6?

Mixed responses

Group 1-

- ✓ *Australia – Yes...but…“[r]esource rent allocations vary across states/territories…At present the ABS only has access to household royalty data for the Northern Territory at the total commodity level. We are investigating the possibility of collecting data by commodity from alternate sources to improve estimates of resource rent allocations to the household sector.”*
- ✓ *Canada – Yes* [not asked as had an earlier draft questionnaire, but NSO already has multi-sector coverage].
- ✓ *Norway – No.*

Group 2-

- ✓ *(IMF STA view) – No, results relate to major PSCs between S.11 and S.13.*

1.10 Do you think the asset split is practically feasible?

1.11 Do you think it leads to meaningful results?

1.12 If your answer to question 1.3 is yes, would you be able to make assumptions about (a) the future extraction of natural resources not yet subject to operation as well as (b) the distribution of their future resource rents streams? Please explain.

1.13 Do your testing results also address mining activities conducted by the sector households (S.14). If so, please explain how in such cases resource rents and their split are being calculated.

Part 2 – How should initial asset appearances and subsequent changes in economic ownership be recorded?

Mixed views

Group 1 only-

- ✓ ***Australia** – "…resources should first appear on the balance sheets already split between government and extractor according to the long-term average of resource rent allocations for that commodity. The reason being that royalties to be paid on almost all commodities are pre-determined by the jurisdiction in which they are mined and apply to all new and future projects…"*

- ✓ ***Canada** – "…the appearance of the natural resources under consideration should be accounted for as other volume changes. Because of year-to-year variance in the royalties provided and in the level of rent available, it is preferred to treat the assets in this manner."*

- ✓ ***Norway** – "For the initial appearance period before extraction starts, 'Economic appearance of assets' should be recorded on the government balance sheet account only, implying that the government owns the entire resources on behalf of the whole nation…"*

2.1 Could you please explain how the appearance of the natural resource(s) under consideration should have been accounted for?

2.2 Have there been events* which would in your opinion require recording the transfer of a natural resource?

Events could be:

- The asset value firstly appeared in the government balance sheet and was later (partly) transferred to its extractor.
- Changes in resource rent allocation arrangements require the recording of a resource transfer. This could go both ways: government → extractor or vice versa.

2.5 Which of these two recording options would have your preference? Please explain why?

2.6 Perhaps you would like to suggest yet another recording solution?

Part 2 – How should initial asset appearances and subsequent changes in economic ownership be recorded?

Mixed interpretation of question, esp. word 'transfer', which was intended to mean 'switch', not SNA sense

Group 1 only-

- ✓ *Australia – Yes…"However, in practice, the long-term value of these changes is difficult to measure and producing a historic time series of all such changes across all jurisdictions would be challenging…"*
- ✓ *Canada – "…If the chosen treatment is to record transfers…through other volume changes then it would not be necessary to record the transfer…* [but]*…if the transactions are recorded as capital transfers, then one example…would be in cases where subsoil asset rights are held by sectors aside from government."*
- ✓ *Norway – "Both events could occur. For example, right after initial appearance, natural resources are registered in the government balance sheet in its entirety as economic appearance of assets, until extraction activities by extractors start, then a transfer of natural resources from government to extractor is Once significant changes in extraction arrangements take place, the recording of a new transfer is needed, possibly going either way between government and extractor."*

2.1 Could you please explain how the appearance of the natural resource(s) under consideration should have been accounted for?

2.2 Have there been events* which would in your opinion require recording the transfer of a natural resource?

Events could be:

- The asset value firstly appeared in the government balance sheet and was later (partly) transferred to its extractor.
- Changes in resource rent allocation arrangements require the recording of a resource transfer. This could go both ways: government → extractor or vice versa.

2.5 Which of these two recording options would have your preference? Please explain why?

2.6 Perhaps you would like to suggest yet another recording solution?

Part 2 – How should initial asset appearances and subsequent changes in economic ownership be recorded?

Leaned towards other changes in volumes but…

Group 1 only-

- ✓ ***Australia – <u>Other changes in volumes</u> – "*[the capital transfer option]** ***suggests that a transaction has occurred where one has not, rather a policy change has happened such that more (or less) of the future stream of resource rents is allocated to the government than under the previous arrangement. Other changes in volume currently represents depletions and discoveries and should also include changes in future allocations due to policy decisions."***

- ✓ ***Canada – <u>Other changes in volumes</u> – "…Because it is not a tangible transaction and there is no legal basis behind change of ownership, we prefer not to capture future royalties as capital transfers…"***

- ✓ ***Norway – <u>mixed approach preferred</u> – "In general,* [a capital transfer recording]** ***is preferred, except for the initial appearance period before extraction starts, in which case 'Economic appearance of assets' should be recorded*** **[as an other change in the volume of assets]*****, but only on the government balance sheet account…"***

- ✓

2.1 Could you please explain how the appearance of the natural resource(s) under consideration should have been accounted for?

2.2 Have there been events* which would in your opinion require recording the transfer of a natural resource?

Events could be:

- The asset value firstly appeared in the government balance sheet and was later (partly) transferred to its extractor.
- Changes in resource rent allocation arrangements require the recording of a resource transfer. This could go both ways: government → extractor or vice versa.

2.5 Which of these two recording options would have your preference? Please explain why?

2.6 Perhaps you would like to suggest yet another recording solution?

Part 2 – How should initial asset appearances and subsequent changes in economic ownership be recorded?

No alternatives suggested

2.1 Could you please explain how the appearance of the natural resource(s) under consideration should have been accounted for?

2.2 Have there been events* which would in your opinion require recording the transfer of a natural resource?

Events could be:

- The asset value firstly appeared in the government balance sheet and was later (partly) transferred to its extractor.
- Changes in resource rent allocation arrangements require the recording of a resource transfer. This could go both ways: government → extractor or vice versa.

2.5 Which of these two recording options would have your preference? Please explain why?

2.6 Perhaps you would like to suggest yet another recording solution?

Summary and Proposed Next Steps

- **Based on the positive results from testing:**

  - ✓ **The split asset approach should be adopted using the resource rent methodology proposed by the SEEA and elaborated in WS.6;**
  - ✓ **Information on the corresponding balance sheets of governments and non-financial corporations (and any other sectors) should be incorporated to give a more accurate reflection of sector net worth; and**
  - ✓ **Initial appearances of natural resource assets should be recorded as other changes in the volume of assets rather than as capital transfer, which would mean that the net lending/borrowing of both PNFCs and GG would not be impacted.**

Summary and Proposed Next Steps

- **However, still need to resolve some measurement principles:**

1. *Does the AEG agree with the use of average resource rent shares to split the asset values?*
2. *Does the AEG support the view that the economic appearance of an asset is concurrent with financial arrangements and ownership rights being established, or does it consider that these events may be distinct?*
3. *Does the AEG agree with the recording of a natural resource ownership change amongst sectors as an other change in the volume of assets or would it prefer the recording of a capital transfer?*
4. *Does the AEG support recording changes in royalty regimes as an other change in the volume of assets or would it prefer the recording of a capital transfer?*

- **Also need to further engage with the wider GFS and SEEA communities before next AEG to discuss results and help reach final conclusions on implementation (though respecting any related final guidance already endorsed by the AEG in WS.6/8/10/11)**

Thank you!

Feedback?