System of Environmental Economic Accounting

Sessions #3, 4 & 5

SEEA EEA Revision workshop: Valuation and accounting treatment

16-18 March 2020

United Nations

System of Environmental Economic Accounting

Session #3 continued

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Question: Ownership of ecosystem assets

8.5 Determining the economic ownership of environmental assets following SNA principles is challenging when the assets and the benefits they supply are public goods and not subject to clear property rights.

A range of considerations have been examined, including consideration of the treatment of other "public" assets such as natural resources, resources on the high seas, research and development, intellectual property type assets; as well as the treatment of leases and joint ventures.

Given the range of possibilities, what considerations and treatments are most appropriate for ecosystem assets and their integration into economic accounts?

Question: Allocation of degradation

8.7 Following standard national accounting principles, degradation should be allocated/attributed to the economic unit whose future flow of ecosystem services is reduced. This is considered a costs borne approach.

While this approach does align with national accounting tradition, the fact that a loss of ecosystem condition can arise through no fault of the economic unit losing the services, suggests that an alternative approach is to attribute degradation to the economic unit that causes the loss of condition. This is known as a polluter pays approach and is a common framing from a policy and user perspective.

Both treatments are possible in the accounts using various accounting entries. Which approach is most appropriate for ecosystem accounting purposes?

Question: Shadow prices

Shadow prices

- Prices in which all externalities have been internalized?
- Or, simply imputed prices in case of non-market phenomena

7.2 Can we reach an agreement, for the purposes of discussion of ecosystem accounting, about what is intended when the term shadow prices is used?

Question: Definition of net income

7.3 Within the core ecosystem accounting framing it is intended that the entity to be accounted for/asset to be valued is an ecosystem reflecting an ecological unit which supplies ecosystem services but has no direct input costs.

A common alternative framing is that the focus of valuation is a spatial area incorporating all activities and associated incomes and costs within that area. The second framing can lead to quite different valuation results if the costs to maintain the ecosystem assets (incurred by, for example, the ecosystem manager) are deducted to estimate the future stream of income of the asset.

Is there agreement that the entity that is to be the focus of valuation for ecosystem accounting is the ecologically defined unit?

Question: Capital gains

7.4 The treatment of capital gains is a common area of confusion. From an accounting perspective, capital gains are excluded from measures of production and income as recorded in the relevant flow accounts. However, for the purposes of valuing assets based on future flows, it seems plausible that expected capital gains should be considered.

What is the appropriate treatment for accounting purposes and how does this align with the approaches in the economics literature?

Question: Valuation by ES

7.5 Generally, present value approaches are applied to individual benefit or income streams which in effect suggests that a single ecosystem service can be given an asset value. However, in the ecosystem accounting framing, it is intended that an ecosystem asset would be regarded as supplying a basket of ecosystem services such that the value of the ecosystem asset would reflect multiple future income streams.

A compromise approach might be to estimate the present value of each individual ecosystem service and then aggregate. However, it is accepted that in reality, for any given ecosystem asset, there will be strong connections among the supply of different ecosystem services – some competing and some complementary – thus the future patterns of flows for individual ecosystem services will be connected.

Given this reality, what are the options and implications for measuring the overall value of an ecosystem asset (for example with respect to measurement of degradation)? What assumptions and approaches are appropriate for ecosystem accounting?

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Session #4

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Potential complementary measures

- Estimating unrealized values
- Environmental liabilities
  - Unpaid ecological costs (previous or desired state)
  - Future maintenance costs
  - Leases and legal requirements to "make good"
  - Negative assets
- Valuation of degradation using restoration costs and/or damage costs
- Recording negative externalities and disservices

- Question
  - Which of these complementary measures should be discussed in the revised SEEA EEA?
  - Should bridge tables be developed?

Potential complementary frameworks

- Links to wealth accounting
  - Concepts of valuation and links to shadow prices
- Andalucia model and treatments of capital gains
- Complementary Accounts Network
- Others ….

- Question
  - Are there any conceptual barriers to making the connections between these frameworks and the SEEA?
  - What are the appropriate roles for each of these frameworks?

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Session 5

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Outline of valuation chapters

- Four chapters
  - Principles of valuation for ecosystem accounting
  - Accounting for ecosystem services in monetary terms
  - Accounting for ecosystem assets in monetary terms
  - Integrated and extended accounting for ecosystem services and assets

- Questions
  - Coverage appropriate – topics/content missing?
  - Structure and flow appropriate
  - Balance of material – areas of focus?
  - Need for annexes?

Additional topics & issues

- Integration with measures of capacity, resilience, biodiversity, and environmental thresholds
- Connection to land valuations – e.g. SNA land improvements
- Connection to valuation of individual natural resources in SEEA CF and SNA
- Indicator proposals
- …

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Thank you

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