SEEA and Integration

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- Integration of the statistical process means that produced statistical series embody harmonization and coherence

- Presumes that the research on the measurement object, the attending variables, type of respondent (household, establishment) has been determined

- Presumes that there is an intersection of measurement objectives

Definitions

- Integration: creating statistics within one statistical framework

- Harmonization: defining variables, sample units and so on to be equal across surveys

- Coherence: the statistical relationship between two series

Harmonization

- Eases respondent burden

  - Fosters familiarity with type of information requested

  - Multiple survey respondents will spend less time if no deviation across surveys

    - Contributes to consistency and accuracy

  - Ability to harmonize depends on access to different kinds of data

Harmonization

- It also depends on the underlying questions that the data are intended to answer

- Very important in decentralized statistical systems because different agencies have their own mandates to collect data

- Administrative data such as tax data key to harmonizing sample frame of different surveys

- For environmental statistics there is the regulatory administrative data base

Coherence

- Establishing a statistical association between two or more series

- There is a formal statistical method for matching different data series

  - These provide quantitative measures

- Practical test: Do the different series tell the same story?

  - Example: Does sub-annual series tell the same story as the annual series?

- Environmentally related data comes to BEA from Departments of Agriculture, Energy and Interior

- Fuel, Timber, Mining and so on

- These data are collected for non-national accounts purposes

- Access given sometimes to non-published data

Boundary

- Environmental statistics collected for many purposes

- Need to draw the boundary for national accounts purposes

- The boundary is crucial because not all environmental statistics should be designed from the perspective of economic statistics

- Perhaps the boundary should be based on what the question to be addressed is

- If the questions concern improving the understanding of the physical, biological and chemical interactions then there is little usefulness to an economic perspective

- Economics comes into play if one is going to talk about policy; benefits and costs

- Or about prices and the allocation of natural resources—production and consumption

- Example: EPA's atmospheric modeling relies on statistics that support its study of the interaction between gas, aqueous and aerosol chemistry

- Purpose is to understand the science of pollution in the atmosphere

- Outcomes of this modeling may relate to air quality which in turn might be used as a quality indicator in the national accounts

- Not really different from other aspects of the national accounts

- For example, when we talk about the R&D in pharmaceuticals, economic accounting is concerned with the inputs used to produce the R&D output; the latter is sometimes difficult to define and we develop indicators

- But the economic accounts are not concerned with the statistics concerning molecular structure, the physiology of the biochemical reactions, and so on

- In terms of national accounts, R&D is presumably a factor leading to economic growth

- But it is not under the purview of national accountants to model that relationship (e.g. how the growth in patents changes GDP)

- National accounts simply provide various metrics for aggregate economic activity; levels and growth rates

- BEA explored the integration of economic data and environmental data in the mid-1990s

- Focus was on providing a picture of the integration of the economy and the environment

- It did not cover many of the transformations and interactions within the environment itself—for example the conversion of natural carbon dioxide into oxygen by plant matter on land and in the oceans

International Guidelines

- Environmental accounting integrates environmental data with the national accounts

- Although a lot of statistical information is available to describe the state of the environment, the information is generally not collected with the needs of the national accounts in mind

- As a result, there are coordination and consistency problems that must be confronted

- Domain 3 of the Guidelines

- 3. Environment and multi-domain statistics

  3.1 Environment

Includes climate, climate change, biodiversity, natural resources, soil, water, air, waste, pollution, environmental accounts

- The crucial issue is how to use these statistics in the national accounts given that most of the statistics are not designed from a non-economic perspective

- Compiling definitions and establishing concordances between environmental classification systems and the industry/product classifications used in the national accounts

  - Example: Young and Potschin paper at last year's meeting with CICES mapping to ISIC,CPC,COICOP

  - But may have to be done at the country level when the international systems are not used

- Compiling information about statistical properties of environmental statistics and underlying estimation methods to compare with those of the national accounts

  - Important to distinguish between actual data and model-based data