

High-level description of the System of Economic Statistics

Introduction

The system of economic statistics has developed over time in an organic manner. As different policy priorities have emerged, conceptual frameworks and standards have evolved to meet these emergent needs. In some cases, different standards have evolved in different ways to meet the focused need of the organizational entity that created that framework or standard. Consequently, many of the connections and links within the system are informal and ad hoc. In addition to incoherence, this results in unnecessary duplication.

At the same time, users are increasingly demanding datasets that are linked and integrated across domains, as well as new solutions and innovations. The demand for a system which is coherent and integrated but also flexible and responsive increases complexity. To manage this complexity, it is time to better organize the system of economic statistics in order to better meet these user needs.

What do we mean by a ‘system’ of economic statistics?

System

1. A set of things working together as parts of a mechanism or an interconnecting network
2. A set of principles or procedures according to which something is done; an organised scheme or method

In the context of a system of economic statistics we are referring to a common set of standards, operations, and infrastructure utilised across a range of defined statistical domains.

Defining domains is not without risk, we need some definition for managing programs and communicating with users, but it is also acknowledged that a strong adherence to domains can come at a cost to flexibility and adaptability. For the purposes of this paper we have used domains as they are currently understood and managed, rather than revisit them.

Current State

Conceptual Framework

The SNA provides one conceptual ‘backbone’ to the system of economic statistics by describing the core concepts such as units, production boundaries, sectors, valuations, time of recording and the like which are used across domains. These conceptual definitions have been operationalized in a range of globally agreed classifications such as ISIC, CPC and COICOP. A range of other manuals provide further articulation on specific areas of measurement.

In many of these domains, different international organizations have coordinated the horizontality of these system components through codified manuals and standards and through the sharing of best practices and methods.

Many of these manuals are based on sectors as defined in the SNA:

- Public Sector – Government Finance Statistics Manual
- External Sector – Balance of Payment Manual, Merchandise and Services Trade Manual, Import and Export price manual
- Finance Sector - Money and lending,
- Household Sector – Labour manuals, Consumer Price Index manual, Household Income and Expenditure standards
- Business Sector (Non-financial corporations) – Agriculture, Producer Price Index Manual,

In addition, different conceptual frameworks have been developed for other subject matter domains. For instance, the Frascati Manual has become the de facto standard for the measurement of R&D, despite being a product of the OECD. The OECD also provides frameworks for the measurement of the digital economy and well-being. NSOs conducting agriculture statistics programs look to the FAO for standards to conduct agricultural censuses and surveys. In short, a range of other manuals cover themes that provide different perspectives that may not neatly fit the standard classifications, but which are important for policy perspectives:

- Tourism
- Innovation and ICT
- Time use survey
- Informal Economy

These manuals are further supported by handbooks, regional versions of standards, guidance notes` and other supporting material. These documents, mainly designed to provide countries with operational guidance suited to their circumstances, run into the hundreds in number.

The ownership, governance and management arrangements for these various standards and manuals is largely the result of historical developments. Governance is spread over a range of different organisations and is conducted by a variety of arrangements. Improvements in integration and coherence have taken place over time driven by a desire for an aligned set of standards, however the governance linkages and informal and person dependent.

As demand grows for more comprehensive measures these standards have come under pressure to broaden their scope of interest far beyond what they have traditionally covered or may be suited to cover (for example GDP to well-being). Without careful management this increasing demand risks complicating and slowing the standards update process.

Statistical Operations

There are a range of statistical operations artifacts that are recognized as important to the system of economic statistics (many of which are not specific to the economic domains):

- Statistical business models (GSBPM, GSIM etc.)
- Data collection and editing approaches (for administrative, survey and big data)
- Data access and release arrangements
- etc

These artifacts focus mainly on the business of running surveys and census. Guidance on the use of big or new data is still its infancy, and even guidance on the use of administrative data is (in relative terms) underdeveloped.

This guidance is also provided in the context of an NSO as a provider of aggregate statistics. Newer roles including that of data custodian and provider of micro-data are largely unaddressed, with guidance on operating within this new environment still in its infancy.

Statistical Infrastructure

NSOs have built up a significant level of statistical infrastructure vital to their ongoing operations (across all statistics including economic statistics). Built primarily for a business model of running collections and disseminating aggregate statistics, with the data revolution this infrastructure is now also required to support the business models and new service offerings.

Some important elements for the statistical infrastructure component are:

- Common Register and frames
- ICT tools (enterprise backbone, CAPI, CATI, etc.)
- Data sharing and exchange tools (SDMX, privacy preserving techniques, etc)
- Institutional arrangement including data access across government, data ethics, quality and confidentiality
- Etc

Why Change

While the path that led the system to its current state is understandable. Traditionally the policy priorities that led to the development of these standards were siloed. This is changing. The policy issues being faced by international organizations and individual NSOs no longer fit neatly into single domains of knowledge. For instance, in looking at the digital economy, a “complete” system would consider: impacts to the structure of the SNA, ICTs, e-commerce, issues of ownership of IP, the value of data as an asset, labour markets implications, among others. Ensuring better organization between methods and standards is essential to avoid duplication, declines in both responsiveness and coherence.

Duplication

The existing system involves a significant amount of duplication and overlap. Currently NSOs can represent a single subject matter focus in separate international bodies and fora. This leads to different international organizations seeking similar information to feed into their reports and compendia. This creates an additional burden to member countries.

Responsiveness

As emergent issues arise, there has to be an ability of the system to respond quickly. A complete measurement framework for the digital economy, for instance, spans not just impacts to the measurement of GDP, but also possible modal bias on CPI, income equality (i.e. related to skills gaps) and measures of science, technology and innovation (i.e. the pathway of IP from development to commercialization through to ownership). The frameworks that this affects go beyond the SNA framework, but cover conceptual; frameworks in a range of different organizations. Adjustments have to happen in a coordinated fashion.

Coherence

The fall-out of independently developed systems is a potential lack of coherence. This has an impact on the ability to bring together more aggregate measures in a consistent way. It may also have an impact on the micro-level of integration that would allow for a richer analysis.

Future State

To meet these challenges, we need to discuss the next evolution of the system of economic statistics, to agree to a vision for a future state which we can work towards and which will ensure the relevance, reliability and robustness of these statistics into the future.

Conceptual Standards

The conceptual standards of the future should build on the progress made in setting a coherent set of standards that cover many elements of economic activity and begin to link to social and environmental outcomes.

Ultimately, there should be a family of standards that operate together to inform on multi-dimensional policy questions. These standards would be based on a common set of foundational concepts (such as definition of units, valuation basis etc) which enable the integration of data.

This approach can be viewed as building on the start made with the development of SEEA as a complement to the SNA. One can imagine this “family of standards” as including standards for the Human and Social dimensions of the economy in addition to existing SNA and SEEA.

There needs to be clear ownership and governance lines in place for this web of standards. This is essential to ensuring coherence and to enable the efficient updating of the standards as real-world changes occur in society and the economy. There should be an agreed approach to this process of updating which is coordinated and nimble as possible.

Inevitably updating of standards is reactive and requires a reasonable period to enact. Therefore, there should be an explicit role for experimentation and innovation to occur outside of the agreed standards. This would enable statistical offices to meet new and emerging demands from users as well as provide alternative views not otherwise supported by the standards. This experimentation and innovation should also feed into updates into the standards as appropriate.

Statistical Operations

The system would utilize a common set of operations and production processes to the extent possible. This can help deliver efficiency, lower respondent burden, and support a wider range of end products.

There would be a set of processes globally available which support National Statistical Offices in their operations, and in their transformation ambitions.

Critically this common set of processes would support innovation in the use of new (big) data sources such as sensor, earth observation and transactions data. They should also support innovation in methods including use of new sciences such machine learning and artificial intelligence.

The set of processes would also support production of a full range of service offerings from National Statistical Offices, covering data services as well as statistical services.

Institutional Infrastructure

Building on a common set of infrastructures is critical to delivering the type of system of economic statistics required by users. NSOs have come to realise that they can no longer approach each domain in a 'siloed' manner using separate infrastructure for each statistical domain and are investing significant resources to develop enterprise wide solutions.

There would be arrangements in place that support NSOs sharing and re-using technology in a manner that was safe, secure and visible. This technology would include software platforms, algorithms or other pieces of intellectual property developed by NSOs.

Recognising the global inter-connected nature of the economy, there would be an ability to share data between countries safely and securely. This sharing of data would include a register of globally active Multi-National Enterprises.

Artifacts such as generic legislation, guidance on ethics, privacy and confidentiality would be available to support NSOs in their use of new data sources and in delivering new data services.

Way Forward

Achieving this future state will only be possible through ongoing change across all elements of the system. The agenda for this meeting of the Friends of the Chair has been designed to generate a set of proposals for each of the elements that will improve the relevance and responsiveness of the system of economic statistics.

Conceptual Standards – Way forward to be discussed in agenda item 6a

Operations – Way forward to be discussed in agenda item 6b

Institutional settings – Way forward to be discussed in agenda item 6c

Governance – Way forward to be discussed in agenda item 8