System of national accounts - new directions

Statistics Explained

Policy developments, changes in the economic phenomena to be observed, and developments in data production techniques result in a dynamic environment for European Union (EU) statistics. At the same time, user demands for data grow, notably in terms speed of delivery, its frequency of delivery, or its level of detail. Given the long time lag involved to develop or improve statistics, user needs are rarely fully satisfied. As a result there is continuous work to develop, refine and maintain the statistical system. However, increases in user requirements may lead to an increase in the burden on respondents.

Against this background, this article reviews the main challenges that lie ahead for national accounts and some of the responses that are already being developed and implemented. It notably presents efforts to further improve quality of national accounts made in terms of accuracy , timeliness or coherence , capturing globalisation and to improve national accounts standards through the update of the system of national accounts (SNA) at a global level, as well as at the European level, by the revision of the ESA . It then looks beyond the use of gross domestic product (GDP) as a single number to 'summarise what is happening in the economy', and presents a number of initiatives to complement traditional national accounts indicators in order to be able to combine economic, social and environmental measures.

Enhancing the quality of national accounts

One of the enduring challenges for European statistics, including macro-economic statistics, is to maintain or improve quality. The quality of data can be assessed against a number of criteria – for example, accuracy, timeliness or coherence.

In recent years improvements have been made in many areas of European statistics concerning several quality criteria, including macro-economic statistics. For example, accessibility has improved through an increase in the availability of data for the EU and the euro area, along with investments that have been made in data dissemination and documentation.

Timeliness has also improved through a number of actions, including: greater coordination in the delivery of data by Member States; the development and implementation of estimation methods for late data; shortening of the deadlines for the provision of data; and the development of flash (early) estimates .

International comparability has improved through the development and implementation of a growing range of guidelines, rules and recommendations. Attempts to make improvements in one area may lead to weaknesses in other areas.

A major challenge for national accounts, and more widely for short-term macro-economic statistics such as the Principal European Economic Indicators (PEEIs) is to balance the timeliness of data with its level of accuracy and the extent of any subsequent revisions.

Beyond this basic challenge to try to improve simultaneously timeliness and accuracy there are other challenges to face, such as the need for international comparability of data.

Capturing globalisation

International comparisons of national accounts have been made for a long time. Although the development of international guidelines, rules and recommendations has intensified in recent decades – the first United Nations (UN) system of national accounts (SNA) was published in 1958.

The international harmonisation of the system of national accounts has developed in parallel to a number of economic and political developments, for example, the single European market and a wider expansion of economic relationships – globalisation.

One impact of globalisation has been the increased interest of being able to access comparable measures of economies, with the possibility of making comparisons within the EU, with other developed economies, with rapidly developing nations, and with neighbouring countries that are candidates or prospective candidate countries.

Globalisation can be defined in a relatively narrow way as describing the increasing levels of exchanges between economies, for example, of goods, services, information (including technology), capital and labour; more broadly it can be considered to include other exchanges of a social or cultural nature.

These economic exchanges lead to a greater level of integration and interdependence for the economies concerned, for example, between financial markets and within production chains. The increased pace of economic globalisation during recent decades can be attributed, in part, to the removal of barriers (for example, trade in goods and services as well as capital movements) and lower costs of transportation and communication.

Globalisation is of interest for various types of analysis, including monetary and economic policies. Increased flows in and out of an economy directly affect domestic issues such as inflation and the money supply and also the extent to which these can be influenced by national policies.

The knock-on effects of developments in one economy through other economies may not be immediately obvious as they pass from market to market, and from economy to economy. The challenge for statistics is to be able to provide information on these interdependencies that have increased through globalisation.

As well as requiring statisticians to think again about the range of indicators necessary to measure the economy, the evolving global economy renders the analysis of long time-series of data less useful: to what extent is the experience from a less globalised world relevant to current and future developments? This question highlights the problems for analysts developing models or interpreting forecasts.

Updating the SNA

In 2003 the United Nations statistical commission (UNSC) initiated the updating of the 1993 SNA. This was undertaken through a working group composed of representatives of the United Nations statistics division, the International Monetary Fund (IMF) , the World Bank , the Organisation for Economic Co-operation and Development (OECD) , Eurostat and the United Nations regional commissions.

The resulting 2008 SNA is the fifth version of the SNA and was adopted in two volumes, the last by the UNSC at its 40th session in February 2009. At the time of writing the final version of the 2008.

SNA is available in English as a single volume comprising a full set of chapters representing the framework in terms of accounting conventions, the accounts, and the integration of the accounts, as well as interpretations of the accounts and extensions such as satellite accounts .

The report on national accounts to the 38th session of the UNSC identified the main changes that were recommended for the update. The updates aimed to address issues that had become more important since the previous update, to remove inconsistencies, to harmonise the SNA with other manuals, and to implement progress made in research since the previous update.

The majority of the recommendations:

- were related to units and transactions that represent characteristics of an increasingly globalised economy;
- came from increased interest in the sources of wealth and debt;
- recognised the increasing role of intangible non-financial assets ;

- took into account further innovation in financial markets;
- reflected the interest in better measures of the impact of pension liabilities in the context of an ageing population;
- recognised the need for better measures of government and public-sector debt and deficit.

There was close coordination between updating the 1993 SNA and the revision of the balance of payments manual. Attention was also paid to further harmonisation with the IMF's government finance statistics manual and the monetary and financial statistics manual, as well as with integrated environmental and economic accounting. Among the major changes were the following:

- research and development expenditure is to be treated as fixed capital formation rather than consumption, as will military expenditure of a capital nature;
- a comprehensive accounting of pension obligations of corporations and government accruing to all individuals is to be compiled regardless of the type of pension scheme;
- goods for processing are to be recorded on the basis of a change of ownership and so, for example, outward processing in foreign countries will not impact on import and export figures.

The revision of the ESA

For the latest information on ESA 2010, please see here .

In June 2007, directors of national accounts from across Europe set out the basis for a revision of the ESA:

- it would start from the consolidated text of the existing Regulation and subsequent Regulations, such as that concerning the recording of taxes and social contributions unlikely to be collected;
- it would cover all the recommendations and clarifications agreed at international level, such as the capitalisation of research and development expenditure;
- it should result in a more integrated system; many linked statistical areas are likely to be impacted, such as research and development, environmental, agricultural and tourism accounts, population, labour and social protection statistics, and balance of payments.

Changes to ESA95 are based on the various recommendations made in the context of the SNA update. For most of the existing chapters, the structure has been kept or only slightly amended. Three existing chapters have been extended in the new ESA, namely Chapter 9 on the input-output framework, Chapter 12 on quarterly economic accounts, and Chapter 13 on regional accounts. A number of new chapters have also been drafted:

- Chapter 19 on European accounts outlines the objective, scope and specifics of the compilation of European accounts, including EU institutions, treatment of the rest of the world, the aggregation and balancing issue and consistency with sources and other European macro-economic statistics.
- Chapter 20 on government accounts presents the basic principles concerning delimitation of the government sector, relations with public corporations, the accounting issues related to government and corporations, government net lending/borrowing and its relationship with government debt.
- Chapter 21 concerns the links between business and national accounts.
- Chapter 22 presents a common framework for functionally oriented satellite accounts, with a focus on research and development which is to be included in the core accounts in the medium or long-term. It also briefly presents satellite accounts for which a fairly complete, agreed and operational methodological framework has already been developed: economic accounts for agriculture, economic and environmental accounts, and social protection.

At the time of writing the revised ESA has been drafted and the text is in the process of being finalised. The key points in the future timetable are as follows:

- adoption of the European Commission 's proposal in June 2010;

- adoption of a Regulation by the European Parliament and the Council in 2012;
- implementation of the new ESA methodology and transmission programme in 2014; it is likely that the Regulation will have two annexes, one on methodology and one on the transmission programme.

The issue of consistency of the new ESA is essential. In particular, this is being addressed by an ESA review group which brings together members of the national accounts working group and the financial accounts working group. Each draft chapter for the new ESA has been discussed by the ESA review group, while a Eurostat/ ECB group has also been formed to look at the question of consistency.

GDP and beyond: measuring progress in a changing world

A number of criticisms have been levelled at national accounts, in terms of their coverage or their relevance for particular types of analysis. In some cases the solution may involve the development of supplementary tables outside of the core accounts, or even of satellite accounts. By design and purpose, national accounts in general, and GDP in particular, can not be relied upon to inform policy debates on all issues.

For example, GDP has been criticised for not measuring welfare, a concept that involves many social concepts and one to which economic statistics such as those in national accounts can contribute only a partial solution.

Another example is that GDP does not measure environmental sustainability . In such cases it may be appropriate to develop indicators to complement GDP, as for example was done with the development of sustainable development indicators to monitor the objectives of the EU Sustainable Development Strategy. Initiatives to complement GDP are not new: the United Nations Development Programme (UNDP) developed a Human Development Index (HDI) to benchmark countries based on the combined measurement of GDP, health and education.

The World Bank with its calculation of genuine savings has pioneered the inclusion of social and environmental aspects when assessing the wealth of nations. The OECD is running a Global Project on Measuring the Progress of Societies fostering the use of novel indicators in a participatory way. The Commission on the measurement of economic performance and social progress (Stiglitz-Sen-Fitoussi report) put in place by the French president concluded with 12 recommendations for better measures of well-being and sustainability. Several NGOs measure the 'ecological footprint' – a measurement that has been formally recognised as a target for environmental progress by some public authorities. Furthermore, numerous researchers have published pilot indices of well-being and life satisfaction.

In its Communication 'GDP and beyond, measuring progress in a changing world', the European Commission noted that there is a clear case for complementing GDP with statistics covering other economic, social and environmental issues, on which people's well-being critically depends. Work to complement GDP has been going on for years, at both national and international level and the European Commission intends to step up its efforts and communication in this field. The aim is to provide indicators that measure progress in delivering social, economic and environmental goals in a sustainable manner. The Communication proposed five actions for better measurement of progress in a changing world.

Complementing GDP with environmental and social indicators

The Communication notes that existing economic headline indicators such as GDP, the unemployment rate and inflation rate are not meant to reflect issues concerning environment or social inequalities: a comprehensive environmental index should be developed and quality-of-life indicators improved. Indeed, there is currently no comprehensive environmental indicator that can be used in policy debates alongside GDP.

Close candidates for such a purpose are the ecological and carbon footprints, but both are limited in scope. As methodologies for composite indices and data are now sufficiently mature it is intended to present a pilot version of an index on environmental pressure in 2010. This index will reflect pollution and other harm to the environment within the EU to assess the results of environmental protection efforts. It will comprise the major strands of environmental policy:

- climate change and energy use;
- nature and biodiversity ;

- air pollution and health impacts;
- water use and pollution;
- waste generation and use of resources.

Publishing this indicator with GDP and social indicators, it should be possible to analyse the level of environmental protection and whether progress is achieved in a balanced way towards social, economic and environmental goals. In addition to this comprehensive index on harm to or pressure on the environment, there is potential to develop a comprehensive indicator of environmental quality, for example, showing the numbers of European citizens living in a healthy environment.

Income, public services, health, leisure, wealth, mobility and a clean environment are means to achieve and sustain quality of life and well-being. Indicators on these inputs are therefore important for national governments and the EU. In addition, social sciences are developing increasingly robust direct measurements of quality of life and well-being as outcome indicators; for example, the European Foundation for the Improvement of Living and Working Conditions is working on this issue. In addition, the European Commission has launched studies on the feasibility of wellbeing indicators and on consumer empowerment and, with the OECD, on people's perception of well-being.

Near real-time information for decision-making

Currently, there are considerable differences in the timeliness of statistics in different areas. For example, GDP and unemployment figures are published frequently within a few weeks of the period they are assessing and this can allow near real-time decision making. In contrast, environmental and social data in many cases are too old to provide operational information. The European Commission will therefore aim to increase the timeliness of environmental and social data to better inform policymakers across the EU.

Satellites, automatic measurement stations and the internet make it increasingly possible to monitor the environment in real time.

The European Commission is stepping up efforts to realise this potential, for example, through the INSPIRE Directive and the global monitoring for environment and security (GMES). The European Commission has already presented the shared environmental information system (SEIS), a vision of how to link traditional and novel data sources online and make them publicly available as fast as possible.

More timely data can also be produced by statistical "now-casting" techniques: for instance, the European Environment Agency (EEA) intends to produce short-term estimates of greenhouse gas emissions based on existing short-term energy statistics, and Eurostat intends to use similar techniques to produce more timely environmental accounts.

The European Commission, together with Member States, has been working to streamline and improve social surveys and reduce the time lag between data collection and publication. Whenever possible and cost-effective, the timeliness of social data will be improved.

More accurate reporting on distribution and inequalities

Far-reaching reforms such as those required to fight climate change or to promote new patterns of consumption can be more easily accepted if efforts and benefits are felt to be equitably shared among countries, regions, economic and social groups. This is why distributional issues attract increasing attention. For example, even if the GDP per capita figure is rising, the number of people living at-risk-of poverty may be increasing. Existing data from national accounts such as household income or from social surveys such as the EU statistics on income and living conditions (EU-SILC) already allow for an analysis of key distributional issues. Policies affecting social cohesion need to use measures of disparity as well as aggregates such as GDP per capita.

The European Commission regularly reports on a set of indicators to inform policymakers about income disparities and particularly about the situation at the lower end of the income scale. The analysis of situations in Member States also looks at education, health, life expectancy, and various non-monetary aspects of social exclusion. Indicators of equal access to quality housing, transport and other services and infrastructure that are essential to participate fully in society (and hence to contribute to economic and social progress) are being developed. In addition, the link between social exclusion and environmental deprivation has been gaining attention and analysis of this issue will be regularly undertaken.

Developing a European sustainable development scoreboard

The EU's sustainable development indicators (SDIs) have been developed together with Member States to monitor progress on the multitude of objectives of the EU's Sustainable Development Strategy and are reflected in the European Commission's biennial progress report. However, this monitoring tool does not fully capture recent developments in important areas that are not yet well covered by official statistics, such as sustainable production/consumption or governance issues. For several reasons, SDIs cannot always be based on the most recent data. Consequently, they may not fully reflect the efforts that businesses, civil society or governments at local or national levels are making to meet these challenges.

To stimulate the exchange of experience between Member States and among stakeholders on policy responses, more concise and timely data are needed. The European Commission is therefore exploring the possibilities to develop, together with Member States, a sustainable development scoreboard. The sustainable development scoreboard, based on the EU's sustainable development indicators, could also include other quantitative and qualitative publicly available information, for instance, on business and policy measures.

Thresholds for environmental sustainability

One key objective of the EU Sustainable Development Strategy is to respect the limits of the planet's natural resources.

These include nature's limited capacity to provide renewable resources and absorb pollutants. Scientists are seeking to identify related physical environmental threshold values and highlight the potential long-term or irreversible consequences of crossing them. For policymaking it is important to know these 'danger zones' before the actual tipping points are reached, thereby identifying alert levels. The cooperation of research and official statistics will be stepped up in order to identify – and regularly update – such threshold values for key pollutants and renewable resources in order to inform policy debate and support target setting and policy assessment.

Extending national accounts to environmental and social issues

The ESA is the main basis for economic statistics and indicators within the EU. In its June 2006 conclusions, the European Council called on the EU and its Member States to extend national accounts to key aspects of sustainable development. National accounts will therefore be complemented with integrated environmental economic accounting that provides data that are fully consistent. As methods are agreed and the data becomes available this will be complemented, in the longer term, with additional accounts on social aspects.

This will provide an integrated basis to underpin policy analysis, helping to identify synergies and trade-offs between different policy objectives, feeding, for example, into ex-ante impact assessment of policy proposals.

In the longer-term, it is expected that more integrated environmental, social and economic accounting will provide the basis for new top-level indicators. The services of the European Commission will continue to explore through collaboration with international organisations, dialogue with civil society and research projects how such macro-indicators could best be designed and used.

Integrated environmental-economic accounting

The European Commission presented its first strategy on 'green accounting' in 1994. Accounting methods have been developed and tested to the point where several Member States now regularly provide data sets from environmental accounts.

Most common are physical flow accounts on air emissions (including greenhouse gases) and on material use, as well as monetary accounts on environmental protection expenditure and taxes. The European Commission plans to extend data collection in these areas to all Member States. As a subsequent step, physical environmental accounts will be set up for energy use and supply, waste generation and treatment, water use and supply and monetary accounts for environment related subsidies, and the environmental goods and services sector (eco-industries).

The European Commission aims to have these accounts fully available for policy analysis by 2013. A legal framework for environmental accounting will be proposed to ensure that these accounts are comparable.

A second strand of environmental accounts relates to natural capital, in particular changes in stocks, the most advanced of which are accounts on forest and fishery stocks, where the European Commission will contribute to the work currently being undertaken within the United Nations.

A further challenge in the development of environmental accounting is complementing physical environmental accounts with monetary figures, based on valuations of the damage caused and prevented, changes in the stock of natural resources and in eco-system goods and services. Monetising the costs of environmental damage and the benefits of environmental protection can help to focus policy debate on the extent that our prosperity and well-being depend on goods and services provided by nature. At a micro level such valuation is conceptually sound: it is covered by several studies, notably the economics of ecosystems and biodiversity (TEEB) initiative, an on-going wide ranging valuation of ecosystem services, jointly undertaken by the United Nations Environment Programme (UNEP), several countries and the European Commission. The European Environment Agency plans to continue its work on the valuation of and accounting for ecosystem goods and services, with a view to establishing internationally accepted methods. However, translating such studies to the macro level in a meaningful way needs further research and testing. The European Commission intends to step up work on monetary valuation and the further development of conceptual frameworks in this area.

Increasing use of existing social indicators from national accounting

The existing ESA already includes indicators that highlight socially relevant issues, such as the disposable income of households and an adjusted disposable income figure that takes into account the differences in social protection regimes of different countries. Those figures reflect better what people can consume and save than the headline GDP per capita figures. The European Commission's services intend to increase the use of these indicators.

Other articles

- European sector accounts - background (background article)
- Economy at regional level
- National accounts - an overview (background article)
- National accounts and GDP

Tables

- National accounts (including GDP) (t_na) , see:

Annual national accounts (t_nama)

Quarterly national accounts (t_namq)

- European sector accounts , see:

Annual sector accounts (t_nasa)

Database

- National accounts (including GDP) (na) , see:

Annual national accounts (nama)

Quarterly national accounts (namq)

Supply, use and Input-output tables (naio)

- European sector accounts , see:

Annual sector accounts (nasa)

Quarterly sector accounts (nasq)

Dedicated section

- National accounts (including GDP)
- European sector accounts

Publications

- EU economic data pocketbook – quarterly
- Eurostat Yearbook 2010 , see: In the spotlight – national accounts

Methodology

- Annual national accounts (ESMS metadata file — nama_esms)
- Annual sector accounts (ESMS metadata file — nasa_esms)
- European system of accounts ESA 1995
- Eurostat-OECD methodological manual on purchasing power parities
- Handbook on price and volume measures in national accounts
- Handbook on quarterly national accounts
- Quarterly national accounts (ESMS metadata file — namq_esms)
- Quarterly sector accounts (ESMS metadata file — nasq_esms)
- Supply, use and Input-output tables (ESMS metadata file — naio_esms)

Legislation

- NACE Rev. 1 – statistical classification of economic activities in the European Community

External links

- United Nations Statistics Division 2008 SNA
- United Nations Statistics Division 1993 SNA