Short-term statistics:

Conceptual framework and its relevance to policy making

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Benson Sim

United Nations Statistics Division

- What are short-term statistics?

- Uses of short-term statistics

- Integrating framework for short-term statistics

- International programme on short-term statistics

  - Economic tendency surveys

  - Data template and analytical indicators

  - Cyclical composite indicators

  - Rapid estimates

Comprise statistics compiled and disseminated on

- Daily basis (e.g. oil prices, stock market price index)
- Weekly basis (e.g. unemployment claims)
- Monthly basis (e.g. consumer price index)
- Quarterly basis (e.g. quarterly GDP)

to track short-term developments in various aspects of the economy

Policy, monitoring and analysis

- Provide early warning system on occurrence and timing of economic upturns and downturns

    - Example: Cyclical composite indicators and tendency indicators

- Measure short-term impact of internal and external shocks

- Support formulation of national budgets

    - Some national budgets are proposed and discussed in fourth quarter of calendar year and require various short-term statistics as inputs

- Allow for prompt and effective fiscal and monetary policy response

- Allow for forecasting and modelling

Statistical use

- Input to compilation of national accounts

  - Quarterly consumer, producer, export and import price indices can be used as deflators to calculate quarterly GDP in volume terms

  - Quarterly index of production and retail sales index can be used to calculate production-based quarterly GDP in volume terms

  - Retail sales index can be used to track changes in household consumption in volume terms

- Input to construction of other short-term indicators

  - Example: Composite leading, lagging and coincident indicators

- Input to short-term forecasting of the economy

- Policy makers and other stakeholders require a consistent and coherent understanding of the short-term performance of the economy

- This implies the need for timely, consistent and coherent statistics to

  - Monitor progress

  - Evaluate whether policy goals are being achieved

  - Formulate and implement appropriate monetary and fiscal policies to respond to changes in the economy

- To achieve this implies the need for a statistical framework that can organize, integrate and reconcile most of the short-term statistics

- The statistical framework also needs to provide data of sufficient

  - Scope

  - Detail

  - Quality

  - Timeliness

- The System of National Accounts (SNA) ensures that the compilation of short-term statistics is conceptually consistent with economic theory

  - Ensures consistency of concepts, definitions and classifications used in different but related fields of short-term statistics

  - Serves as accounting framework to ensure numerical consistency of data from various sources

- Consequently, the SNA provides an overarching integrating framework for compiling short-term statistics to facilitate economic analysis and policy formulation
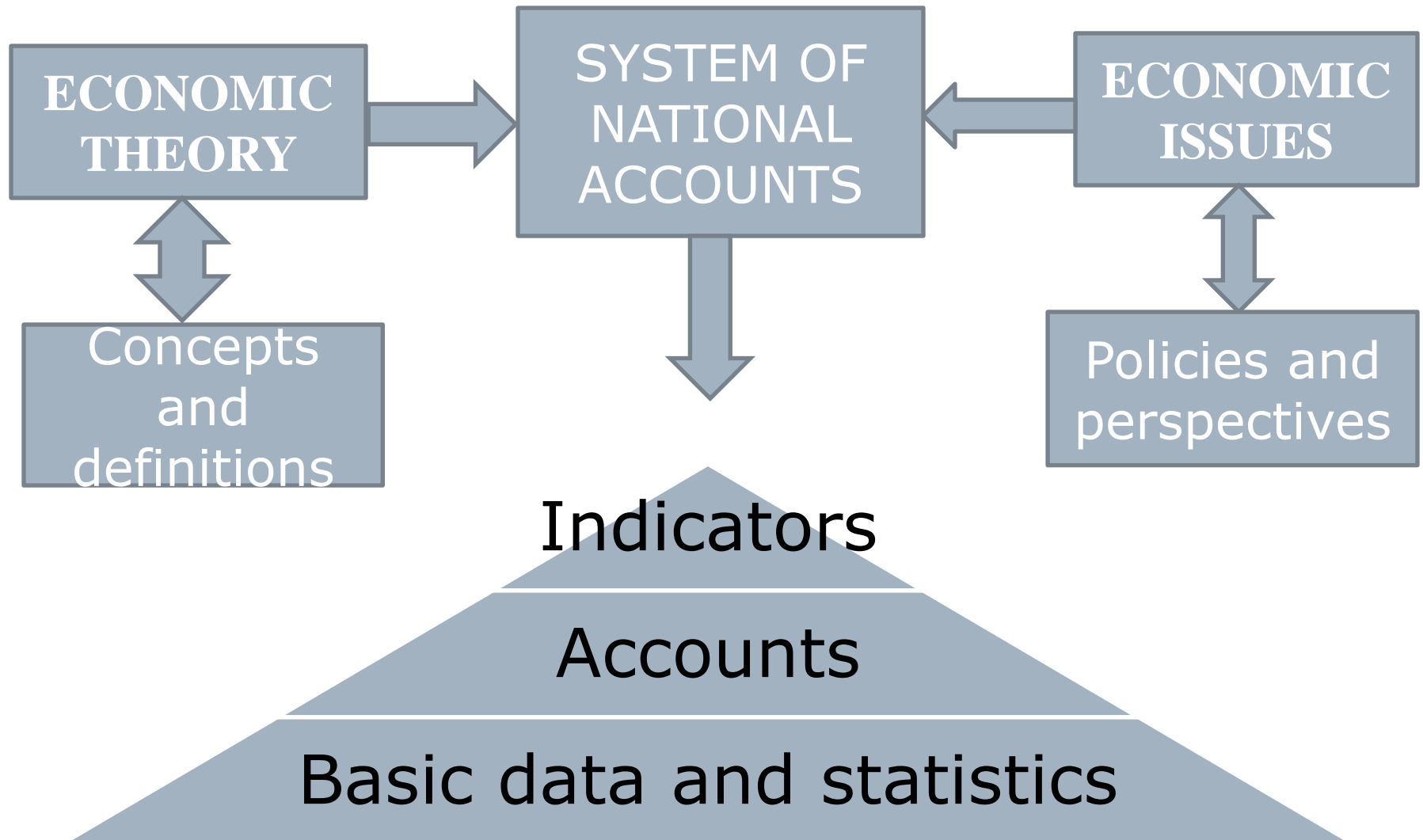
Example – index of industrial production (IIP)

- The theoretical aim of the IIP is to reflect the volume developments in value added over time

- This will allow IIP to be used as an indicator for growth of industrial real value added in quarterly GDP

- In practice, it is generally not possible to calculate value added at high frequency in most countries due to lack of data on intermediate consumption

- Compilers will need to find the best approximation of short-term movements in value added

Example – index of industrial production (IIP)

- Approximate methods to track changes in real value added include the use of
  - Output as defined in the 2008 SNA
    - Measured using deflated value of output or physical quantities
  - Sales
    - Measured using deflated value of sales
  - Inputs
    - Method is used when reliable measures of output are unavailable or when accurate measures of output are available with a lag
    - Main input variables used include labour input and materials consumed (for example, energy use)
    - Labour input can be measured in number of hours worked, full-time equivalent jobs or numbers of persons engaged
    - Materials consumed are measured using deflated value or physical quantities of materials used

Example – index of industrial production (IIP)

- The use of output as defined in the 2008 SNA is preferred because it comprises

  - Sales

  - Finished goods

  - Output for own final use

  - Work-in-progress of products with production cycle that extends over more than one accounting period

- Calculating IIP using output will allow it to be a better indicator for growth of real industrial value added in the compilation of quarterly GDP

- Joint initiative by United Nations Statistics Division (UNSD) and Statistical Office of the European Commission (Eurostat) in collaboration with Statistics Canada, Statistics Netherlands and the Russian Federal State Statistics Services (Rosstat)

- Based on the outcome of the three international seminars

- Consultation with the academia

  - European Colloquium on Modern Tools for Business Cycle Analysis, Eurostat, September 2010

- Recommends the compilation of short-term statistics using the SNA as the integrating framework

- Was endorsed by the United Nations Statistical Commission in 2011

- Overall objective

  - *provide standard methodology for generating high-quality early warning and business cycle indicators to ensure their international comparability and communication strategy for such indicators*

- Four thematic areas were identified

  - Economic tendency surveys

  - Cyclical composite indicators

  - Data template and analytical indicators

  - Rapid estimates

- UNSD is heavily involved in collaborative efforts with international/regional organizations and other partners to assist countries to compile short-term statistics

- Examples

  - Economic and Social Commission for Asia and the Pacific's core set of economic statistics (http://communities.unescap.org/economic-statistics/rpes-outputs-and-core-set/core-set-economic)

  - Economic and Social Commission for Western Asia's development account project on short-term statistics (http://www.un.org/esa/devaccount/projects/2014/1415AQ.html)

- Examples

  - Economic Commission for Europe's Task Force on Leading, Composite and Sentiment Indicators (http://www.unece.org/stats/lcs)

  - United Nations Industrial Development Organization and Russian Federation Federal State Statistics Service's Regional Project on the Improvement of Industrial Statistics and Development of Indicators of Industrial Performance for Policy-Relevant Analysis in CIS Countries (http://www.unido.org/resources/statistics/regional-cis-project.html)

- Examples
  - Centre for International Research on Economic Tendency Surveys
    - http://unstats.un.org/unsd/nationalaccount/workshops/2014/Hangzhou/lod.asp
    - https://unstats.un.org/unsd/nationalaccount/workshops/2016/Denmark/lod.asp
  - China National Bureau of Statistics (http://unstats.un.org/unsd/nationalaccount/workshops/2015/Beijing/lod.asp)
  - Statistical Centre for the Cooperation Council for the Arab Countries of the Gulf (https://gccstat.org/en/about/news/short-term-statistics-pr)

Economic tendency surveys

- Provide cost-effective means of generating timely information on short-term economic developments

- Serve as integral part of early warning system

Objective of work programme

- To provide best practices and harmonized principles on tendency survey sample selection, questionnaire design, survey questions, survey execution, data processing and use of composite tendency indicators

Deliverables

- A Handbook on Economic Tendency Surveys to provide an internationally accepted set of guidelines applicable to all countries and multiple economic activities

Status

- Edited and formatted copy of handbook in English is available on https://unstats.un.org/unsd/nationalaccount/docs/ETS_Handbook_Final.pdf

- Handbook has been translated into other UN official languages, including Russian

- The translated versions, including the Russian one, are being reviewed
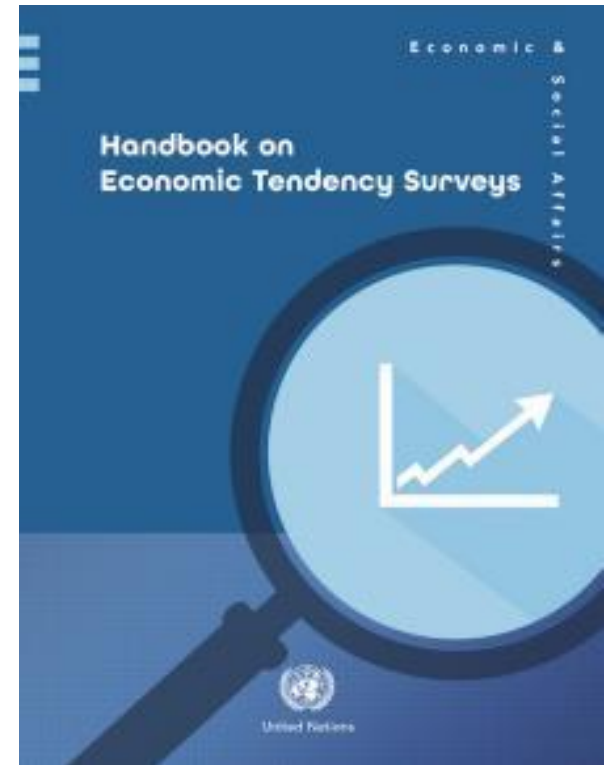
Objective of work programme

▪ To establish an internationally accepted data and metadata template for short-term economic indicators for the purpose of macroeconomic surveillance, early warning of economic and financial vulnerabilities and detection of turning points in business cycles

Deliverables

- An internationally accepted data template together with corresponding reference metadata

- A handbook for the internationally accepted data template and metadata structure

- An updated knowledge base on economic statistics (https://unstats.un.org/unsd/EconStatKB/Knowledgebase.aspx)

Date template

- Consists of an internationally agreed list of policy-relevant short-term statistics for use in

  - Macroeconomic surveillance

  - Early warning of economic and financial vulnerabilities

  - Detection of turning points in business cycles

Data template

- Is the result of a consultation process with experts and countries on the availability, periodicity, timeliness and dissemination of short-term statistics

- A global assessment was undertaken by UNSD in 2009 to gain insight in the availability of short-term statistics in countries and their data dimensions in terms of periodicity, timeliness and dissemination

- All UN Member States were invited to participate in the assessment

- It was discussed and <u>endorsed</u> at the UN Statistical Commission in 2011

Structure and content of date template

Short-term statistics are organized in 12 categories:

- National accounts
- Production and turnover
- Prices
- Labour market indicators

Macroeconomic growth and stability

- External sector
- Financial corporations sector
- General government sector
- Household sector
- Non-financial corporations sector

Sectoral vulnerabilities and developments

- Financial market
- Real estate market

Market conditions

- Tendency indicators
- Composite Business Cycle indicators

Economic sentiment

24

Structure and content of data template

Short-term statistics are organized into 3 Tiers:

- **Tier 1** consists of the minimum required short-term statistics that have strategic importance and are widely available

- **Tier 2** consists of analytically important short-term statistics that are less widely available

- **Tier 3** contains short-term statistics that have national significance, given the structure of the economy

Structure and content of data template

- Each statistic presents a recommended/encouraged periodicity

    - Quarterly

    - Monthly and

    - Timeliness

Data template

	Set 1: National accounts	Tier	Frequency	Timeliness
1.1	Quarterly national accounts: Flash GDP estimate	Tier 1	Quarterly	1M
1.2	Quarterly national accounts: GDP full release			
1.2.1	by expenditure	Tier 1	Quarterly	1Q (SDDS)
1.2.2	by production	Tier 1	Quarterly	1Q (SDDS)
1.2.3	by income	Tier 2	Quarterly	1Q (SDDS)
1.3	Quarterly sector accounts	Tier 3	Quarterly	1Q (SDDS)

Data template and analytical indicators

Data template

	Set 2: Production and turnover	Tier	Frequency	Timeliness
2.1	Production index for industry, by major division (mining, manufacturing, electricity, water, etc.)	Tier 1	Monthly	6-12 W (e-GDDS) 6W, 1M encouraged (SDDS)
2.2	Production index for construction	Tier 2	Monthly	6-12 W (e-GDDS) 6W, 1M encouraged (SDDS)
2.3	Turnover index for retail trade by major division	Tier 2	Monthly	1M (SDDS)
2.4	Turnover index for industry by major division	Tier 2	Monthly	1M (SDDS)
2.5	Turnover index for other services by major division (excluding financial services and non-commercial services)	Tier 2	Monthly	1M (SDDS)
2.6	New orders index for industry by major ISIC division (for those that work on order)	Tier 3	Monthly	1M (SDDS)
2.7	New orders index for construction (building permits or housing starts)	Tier 2	Monthly	1M (SDDS)
2.8	Commodity production as relevant and other indicators of economic activity	Tier 3	Monthly	6-12W (e-GDDS) 6W, 1M encouraged (SDDS)

Data template

	Set 2: Production and turnover	Tier	Frequency	Timeliness
2.8	Commodity production as relevant and other indicators of economic activity	Tier 3	Monthly	6-12W (e-GDDS) 6W, 1M encouraged (SDDS)
	Agricultural products			6-12W (e-GDDS) 6W, 1M encouraged (SDDS)
	Minerals			6-12W (e-GDDS) 6W, 1M encouraged (SDDS)
	New car registrations/sales			6-12W (e-GDDS) 6W, 1M encouraged (SDDS)
	New commercial vehicle registrations/sales			6-12W (e-GDDS) 6W, 1M encouraged (SDDS)
	Tourist arrivals			6-12W (e-GDDS) 6W, 1M encouraged (SDDS)

Data template

	Set 3: Prices	Tier	Frequency	Timeliness
3.1	Consumer price index	Tier 1	Monthly	1-2M (e-GDDS) 1M (SDDS)
3.2	Producer price index	Tier 1	Monthly	1-2M (e-GDDS) 1M (SDDS)
3.3	Import price index	Tier 1	Monthly	2-3W
3.4	Export price index	Tier 1	Monthly	2-3W
	Set 4: Labour market			
4.1	Unemployment	Tier 1	Quarterly	1Q (SDDS)
4.2	Unemployment rate	Tier 1	Quarterly	1Q (SDDS)
4.3	Employment total and by economic activity	Tier 1	Quarterly	1Q (SDDS)
4.4	Hourly wage rate	Tier 2	Quarterly	1Q (SDDS)
4.5	Hours of work	Tier 2	Quarterly	1Q (SDDS)

Data template

	Set 5: External sector	Tier	Frequency	Timeliness
5.1	Exports and imports (of goods and services)	Tier 1	Monthly	8-12W (e-GDDS) 8W, 4-6W encouraged (SDDS)
5.2	Current account balance	Tier 2	Quarterly (SDDS), Quarterly encouraged (e-GDDS)	1Q (SDDS) 2Q (e-GDDS)
5.3	International investment position (IIP), specify balances and components	Tier 2	Quarterly	1Q (SDDS)
5.4	Official reserve assets	Tier 1	Monthly	1-4W, 1W encouraged (e-GDDS) 1W (SDDS)
5.5	External debt (by sector, maturity and foreign currency)	Tier 2	Quarterly	3-6M (e-GDDS) 1Q (SDDS)

Data template

	Set 6: Financial corporations sector	**Tier**	**Frequency**	**Timeliness**
6.1	Central Bank net foreign assets	Tier 1	Monthly	2W (SDDS)
6.2	Central Bank domestic lending	Tier 1	Monthly	2W (SDDS)
6.3	Central Bank reserve money	Tier 1	Monthly	1-2M (e-GDDS) 2W (SDDS)
6.4	Depository corporations net foreign assets	Tier 1	Monthly	1-3M (e-GDDS) 1M (SDDS)
6.5	Depository corporations domestic lending	Tier 1	Monthly	1M (SDDS)
6.6	Depository corporations broad money liabilities	Tier 1	Monthly	1M (SDDS)
6.7	Other financial corporations balance sheet, assets and liabilities by sector.	Tier 2	Quarterly	1M (SDDS)
6.8	Financial corporate profits	Tier 2	Quarterly	1Q
6.9	Financial corporate debt	Tier 2	Quarterly	1Q
6.10	Others as relevant: nonperforming loans of depository corporations, capital adequacy ratios, other financial stability indicators, etc.	Tier 3	Monthly	1Q

Data template and analytical indicators

Data template

	Set 7: General government sector	Tier	Frequency	Timeliness
7.1	Revenue	Tier 1	Quarterly	2Q, 1Q encouraged (SDDS)
7.2	Expense	Tier 1	Quarterly	2Q, 1Q encouraged (SDDS)
7.3	Net operating balance (= Revenue – Expense)	Tier 1	Quarterly	2Q, 1Q encouraged (SDDS)
7.4	Net acquisition of non-financial assets	Tier 2	Quarterly	2Q, 1Q encouraged (SDDS)
7.5	Expenditure	Tier 2	Quarterly	2Q, 1Q encouraged (SDDS)
7.6	Net lending/net borrowing (= Revenue - Expenditure)	Tier 2	Quarterly	2Q, 1Q encouraged (SDDS)
7.7	Gross debt	Tier 2	Quarterly	4M (SDDS)

Data template

	Set 8: Household sector	Tier	Frequency	Timeliness
8.1	Household disposable income	Tier 2	Quarterly	1Q (SDDS)
8.2	Household saving	Tier 2	Quarterly	1Q (SDDS)
8.3	Household debt	Tier 2	Quarterly	1Q (SDDS)
8.4	Other as relevant: household debt service and principal payments, and defaults on home mortgages, credit card debt and car loans etc.	Tier 3	Quarterly	1Q (SDDS)
	Set 9: Non-financial corporations sector			
9.1	Non-financial corporate profits	Tier 3	Quarterly	1Q (SDDS)
9.2	Non-financial corporate debt	Tier 3	Quarterly	1Q (SDDS)
9.3	Other as relevant: net foreign exchange exposure, and the number of applications for protections from creditors, etc.	Tier 3	Quarterly	1Q

Data template

	Set 10: Financial market	Tier	Frequency	Timeliness
10.1	Interest rates, as relevant short and long term money and bond market rates	Tier 1	Monthly	No timeliness recommendation is presented given that the data are widely available from private sources.
10.2	Exchange rates, as relevant spot and forward markets	Tier 1	Monthly	No timeliness recommendation is presented given that the data are widely available from private sources
10.3	Nominal and real effective exchange rate	Tier 1	Monthly	2M
10.4	Stock market indicators	Tier 1	Monthly	No timeliness recommendation is presented given that the data are widely available from private sources
10.5	Others as relevant : spreads between lending and deposit rates, highest-lowest interbank rate; etc.	Tier 3	Monthly	No timeliness recommendation is presented given that the data are widely available from private sources

Data template

	Set 11: Real estate market	Tier	Frequency	Timeliness
11.1	Residential property price index	Tier 2	Quarterly	1Q (SDDS Plus)
11.2	New house sales	Tier 3	Quarterly	1Q
11.3	Existing house sales	Tier 3	Quarterly	1Q
	Set 12: Economic sentiment			
12.1	Consumer confidence	Tier 2	Monthly	1M (SDDS)
12.2	Business confidence	Tier 2	Monthly	1M (SDDS)
12.3	Composite Business Cycle Indicators			1M (SDDS)
12.3.1	Leading Indicator	Tier 3	Monthly	1M (SDDS)
12.3.2	Coincident Indicator	Tier 3	Monthly	1M (SDDS)
12.3.3	Lagging Indicator	Tier 3	Monthly	1M (SDDS)

Objectives of the handbook

- Presents an internationally-endorsed data template and metadata for short-term statistics for the purpose of macroeconomic surveillance, early warning of economic and financial vulnerabilities and detection of turning points in business cycles

- Provides methodological guidance on the calculation of the indicators and their use

- Describes the statistical and analytical properties of short-term statistics

  - Why they are relevant in explaining economic activity

  - How they relate to an integrated set of short-term economic statistics of quarterly national accounts and component data

Objectives of the handbook

- Elaborates on the concepts of a 'centralized' data hub for short-term statistics to facilitate the dissemination and use, of short-term statistics

- Target audience

  - Compilers and users of short-term statistics

Status

- Draft handbook has been circulated for global consultation (see https://unstats.un.org/unsd/nationalaccount/consultationDocs/Data_template_draft.pdf)

- 45 sets of comments were received

- Comments have been incorporated and handbook has been edited

- Address ongoing concerns of assessing short-term changes in economic activities

- Serve as an integral part of the early warning system because they provide information about the occurrence and timing of upturns and downturns of the economy

- There is no existing international statistical guidance on their compilation

Objective of work programme

- To provide best practices and harmonized principles on the compilation and reporting of business cycle composite indicators

Deliverables

- A Handbook on Cyclical Composite Indicators to address the standards for the compilation and presentation of the business cycle composite indicators

Status

- Draft handbook has been circulated for global consultation (see https://unstats.un.org/unsd/nationalaccount/consultationDocs/draft_HandbookCCI.pdf)

- Comments are being incorporated

- Refer to indicators that are available with a relatively shorter time lag

- Provide the first official assessment of short-term changes in economic activities

- Rapid estimates (i.e., nowcasts, flash estimates, advanced/preliminary estimates) are regularly compiled in several countries and have become a referential statistical product for many statistical institutions

Objective of work programme

- To develop international statistical guidelines on best practices and harmonized principles for the compilation and reporting of rapid estimates of key macroeconomic indicators.

Deliverables

- A glossary of terms

- A Handbook on Rapid Estimates to
  - Provide international statistical guidance for the compilation and reporting of rapid estimates; and
  - Assist compilers in producing rapid estimates of key short-term macroeconomic indicators in a comparable manner, using best international practices

Status

- Draft handbook has been circulated for global consultation (see https://unstats.un.org/unsd/nationalaccount/consultationDocs/Handbook_RE.pdf)

- Comments are being incorporated

Thank you!

Please contact sna@un.org if you have any questions