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National Statistics  
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# **Supply and Use Tables and Input-Output Tables**

## **Principles and Guidelines - Day one, Session one**

United Nations Economic Commission for Europe (UNECE)  
Group of Experts on National Accounts  
Special Session for Eastern Europe, Caucasus and Central Asia (EECCA) and South  
East Europe (SEE) countries  
3-5 October 2022, Geneva, online

**All views expressed reflect those of the author / presenter only and not those of the ONS**

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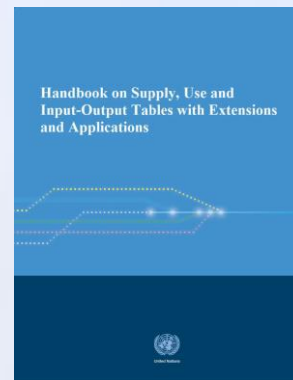
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# Supply and Use Tables and Input-Output Tables

## Principles and Guidelines

### An overview

- Broad picture
  - Commonalities and differences
- Compilation of SUTs and IOTs
  - Some key principles and guidelines
- Framework for a coherent picture of the economy
- An overview of the compilation schematic
- Overall strategy
- Brief feedback on the UNECE SUTs / IOTs questionnaire
- Way ahead
- Any questions?



# Supply and Use Tables and Input-Output Tables

## Principles and Guidelines

### Broad picture

#### Commonalities and differences

- The economic accounting statistical standards and the underlying principles and guidance are the same for all official statistical producers.
- However, countries have many differences:
  - Underlying national systems - political, legal, taxation, administrative, etc.
  - Organisational structure and governance of the statistical system.
  - Resources (e.g., limited finances, skilled staff, etc.) and costs.
  - Access and availability of detailed data to populate the national accounting frame.
- No two countries produce the SUTs and IOTs in exactly the same way.
  - Same applies to National Accounts, Balance of Payments and beyond.



and



are key to higher quality  
and comparability.

The UNECE Special Session is an example and a wonderful opportunity to do so.

# Supply and Use Tables and Input-Output Tables

## Principles and Guidelines

### Compilation of SUTs and IOTs

#### Some key principles and guidelines



- SUTs / IOTs should be at the heart of National Accounts
  - **Integration** leads to better quality, coherency and consistency.
- Production of SUTs enables the creation of:
  - a single estimate of GDP incorporating the components of production, income and expenditure; and
  - volume of GVA through double-deflation.
- SUTs should be produced and balanced in:
  - Basic prices and purchasers' prices.
  - Current prices and previous years' prices.
  - Annual terms - quarterly is an "ideal" option.
- Integrated and balanced SUTs / IOTs should include institutional sector links:
  - Goods and services (account).
  - Production accounts by industry and by institutional sector.
  - Generation of income accounts by industry and by institutional sector.
  - Physical and monetary tables as well as links to labour and productivity.

# Supply and Use Tables and Input-Output Tables

## Principles and Guidelines

### Compilation of SUTs and IOTs

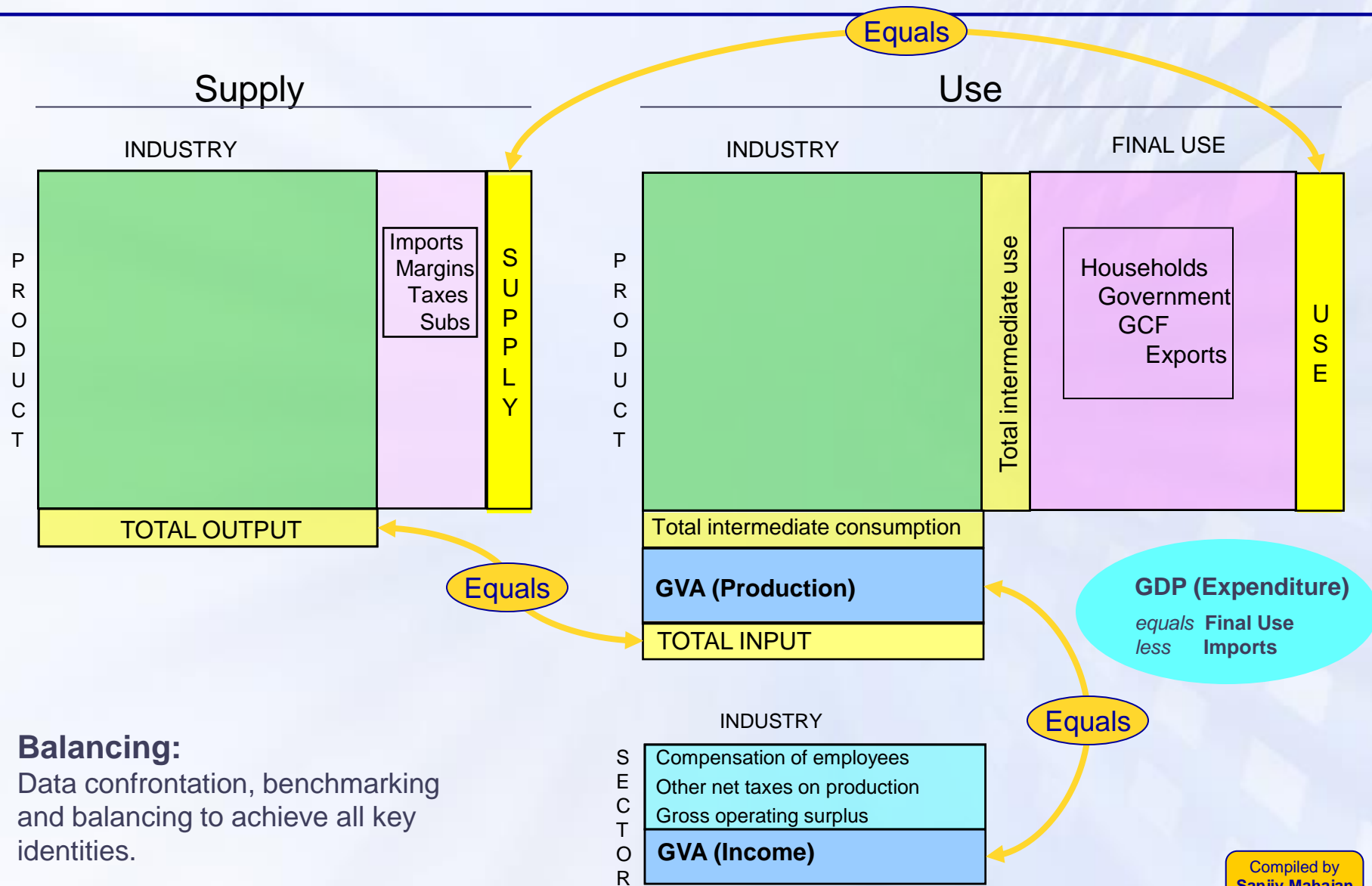
#### Some key principles and guidelines



- Production of SUTs comes first, **then** the production of IOTs.
- GDP is an outcome of balanced SUTs (GDP is not a pre-set target for SUTs).
- Rectangular SUTs with more products - improves deflation and balancing.
- Use standard international statistical classifications (e.g., ISIC, CPC, etc.).
- Organisation of the balancing function:
  - Simultaneous balancing is preferred over sequential balancing.
  - Centralised balancing preferred over de-centralised balancing.
  - Limited, controlled and managed use of automated balancing tools.
- Comprehensive documentation:
  - All data building blocks recorded separately - source data, coverage adjustments, conceptual adjustments, quality adjustments, balancing adjustments, etc.
  - Operational documentation and the methodology itself.

We will touch on many of these issues during the Special Session.

# Framework for a coherent picture of the economy



## Balancing:

Data confrontation, benchmarking and balancing to achieve all key identities.



# An overview of the compilation schematic integrating Supply and Use Tables and Input-Output Tables (“H-Approach”)

## Supply and Use Tables

*Purchasers' prices*

*Producers' prices*

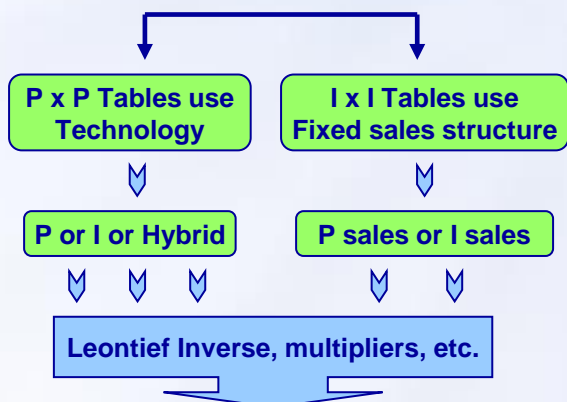
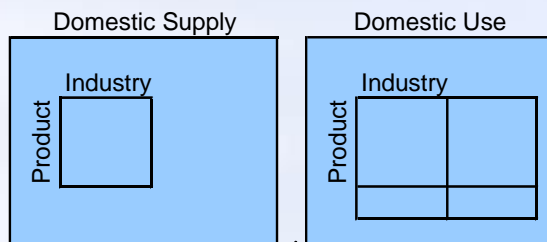
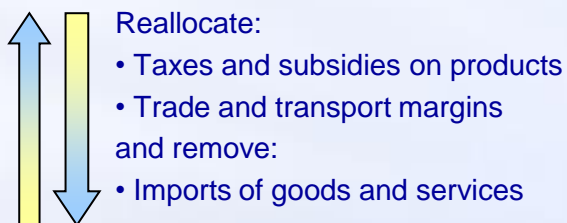
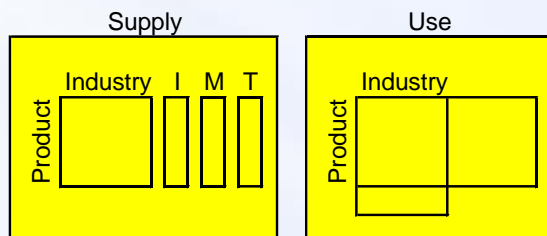
*Basic prices*

## Input-Output Tables

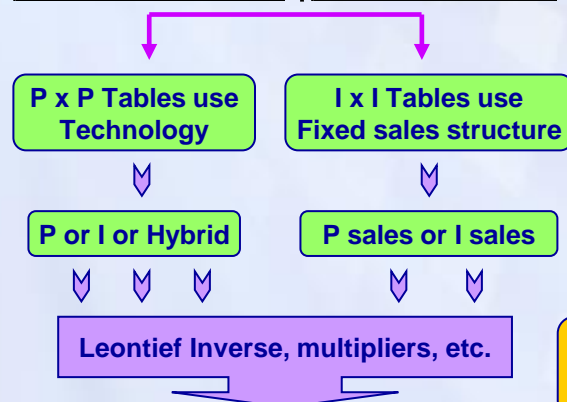
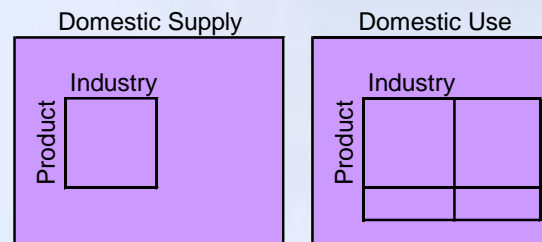
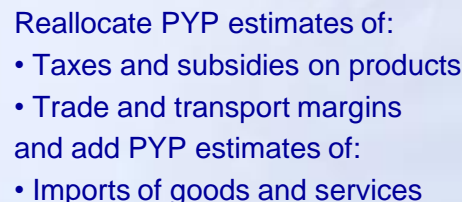
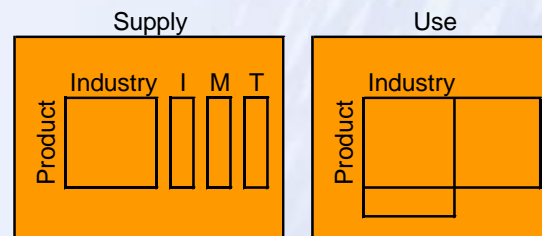
*Type of tables (assumptions)*

*Product or industry or hybrid*

### Current prices



### Previous years' prices



PY rate x volume change

Deflation

Taxes/subsidies split at each stage

Deflation (with domestic / export split)

Other supporting analyses e.g., HHFCe deflation by consumer price indices

# Supply and Use Tables and Input-Output Tables

## Principles and Guidelines

### Overall strategy

**Growing central role of SUTs and IOTs including feedback loops**



*Full integration  
of  
SUTs and IOTs*



*in the National Accounts  
and  
Balance of Payments*

*..... and the development of physical SUTs / IOTs / EE-IOTs*

With SUTs having a central and integral role, they have:

lots of links and degrees of impact on business registers, administrative data, business surveys and statistics, NA, BoP, labour, regional, productivity and environmental statistics which will help to improve the quality, consistency and coherency of related statistics and the SUTs and IOTs too.



# Supply and Use Tables and Input-Output Tables

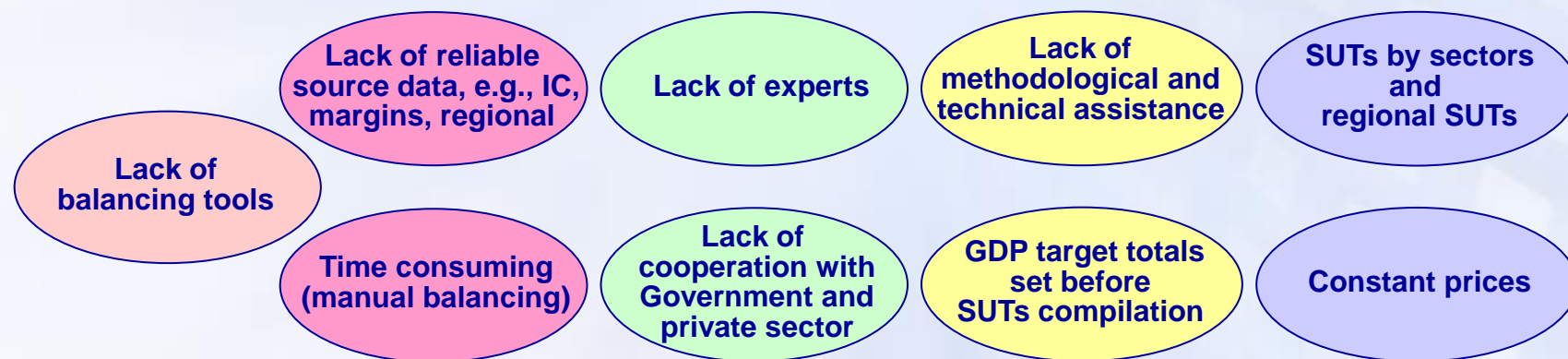
## Principles and Guidelines

### Brief feedback on the UNECE SUTs / IOTs questionnaire

**Based on 18 country responses** (no two countries are exactly the same)

- 15 countries compile SUTs including two are at the experimental compilation stage.
- 10 countries compile on an annual basis - two five-yearly and one on an ad-hoc basis.
  - Most have a recent reference year, e.g., 2019 or 2020.
  - Six countries utilise an IT-based balancing tool.
- SUTs / IOTs used for balancing national accounts, analysis, forecasting, tax policy, etc.

### Challenges being faced



**Thank you all** for responding to the UNECE Questionnaire.

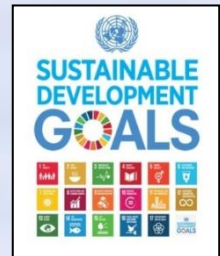
# Supply and Use Tables and Input-Output Tables

## Principles and Guidelines

### Way ahead

#### Growing demand for SUTs and IOTs based analyses

- Major developments / **policy links**:
  - Climate change and Net Zero (e.g., Physical SUTs, EE-IOTs, etc.).
  - Digitalisation (e.g., Digital SUTs).
  - Globalisation (e.g., Extended SUTs, FIGARO, GVCs, TiVA, etc.).
  - Well-being and Sustainability (e.g., SDGs, regional, labour and distribution links through I-O, etc.).
  - Engagement with “new” guidelines: SNA, BPM, SEEA, ISIC, etc.
- Big Data, Data Science and real-time indicators:
  - Opportunities to incorporate more, and new, data sources.



Recognise these may take time and are not easy but are achievable with appropriate resources and available data.

# Supply and Use Tables and Input-Output Tables

## Principles and Guidelines

### Way ahead



The principles and guidelines lay out an ambitious but a key programme of work which will help to better meet a range of growing uses and users' needs ...,

This Special Session will help to cover lots of small steps along the journey ...,



# Supply and Use Tables and Input-Output Tables

## Principles and Guidelines

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## Any questions?

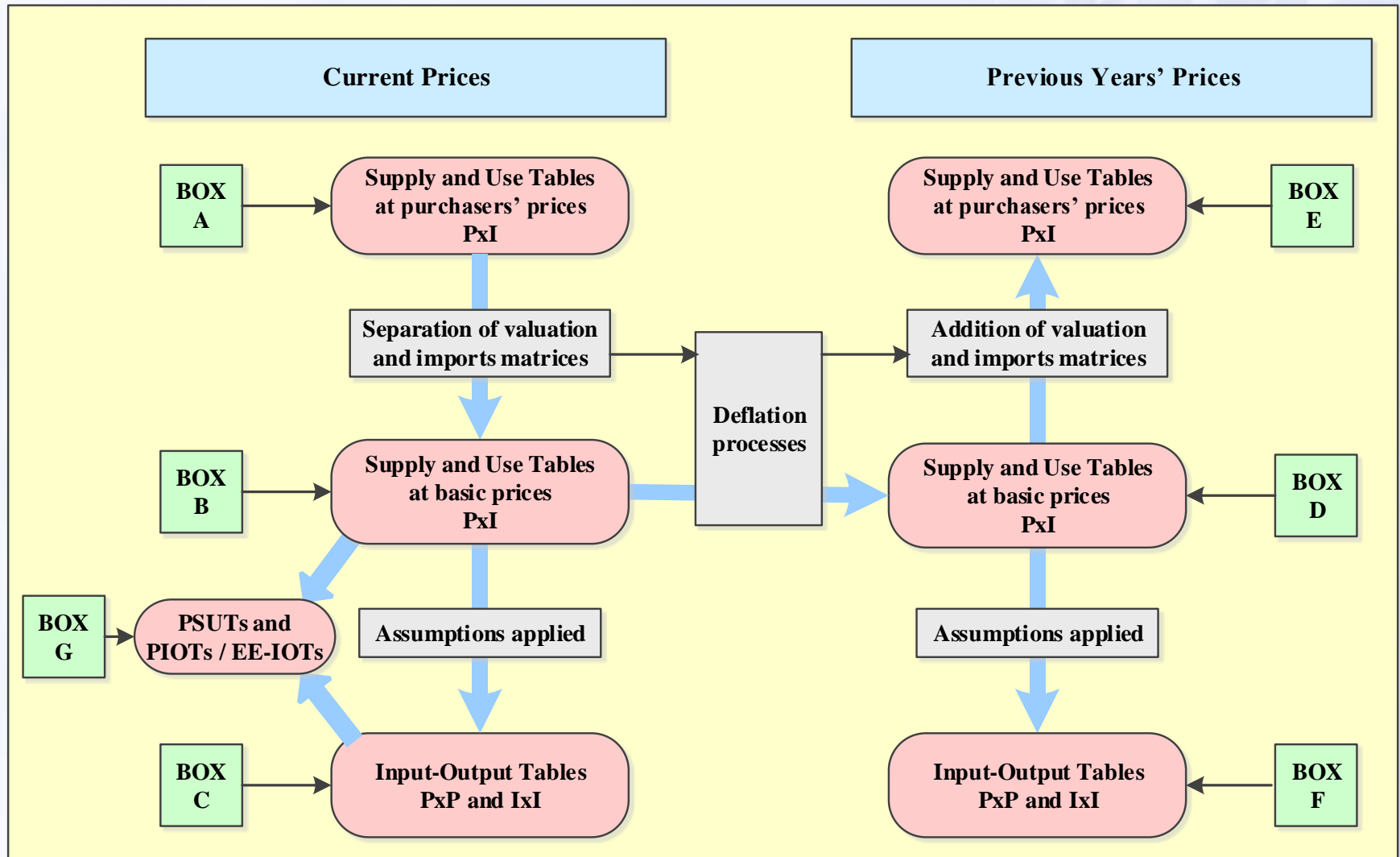
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Extra slides for information

# Simplified version of the “outputs” and the “flows” in the compilation schematic for SUTs, IOTs, PSUTs and EE-IOTs in current prices and SUTs and IOTs in previous years’ prices





# Supply and Use Tables and Input-Output Tables

## Principles and Guidelines

### National Accounts - Broad definitions

#### Total output (at basic prices)

*equals* **Total sales of goods and services**

- As invoiced, excluding VAT.
- Excludes sales of capital formation items and much of other operating income.

*plus* Change in inventories of work-in-progress and finished goods

*plus* Output produced for own final use, for example computer software, R&D, and construction (also known as own account capital formation)

*less* Purchases of goods and services for resale without further processing (thereby only including the gross margin within output)

*plus* Income earned-in-kind

*less* Any taxes on products

*plus* Any subsidies on products

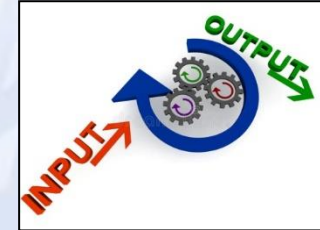


**Sales is NOT equal to output - neither in concept nor data**

# Supply and Use Tables and Input-Output Tables

## Principles and Guidelines

### National Accounts - Broad definitions



#### Total intermediate consumption (at purchasers' prices)

*equals* **Total purchases of goods and services** for use as inputs to the production process

- Excludes employment costs, capital formation and depreciation.
- Excludes deductible VAT and includes non-deductible VAT.

*less* Change in inventories of materials and fuels

*less* Purchased / bought-in computer software and R&D (treated as GFCF)

*plus* Imputed insurance premium supplements

*less* FISIM

*less* Payments to employees such as income earned-in-kind

#### Gross value added (at basic prices)

*equals* Total output (at basic prices)

*less* Total intermediate consumption (at purchasers' prices)

**Purchases is NOT equal to intermediate consumption - neither in concept nor data**