

COMPILATION OF SUT IN ESCWA Member States

August 2018

Use Tables

Methods and Data

Structure of Use Table (1/2)

- It is a product X industries and final uses table: Values are at purchasers' prices
- Number of products and industries are identical in both supply and use tables
- Rows in use table present sales to industries and final users, i.e.
 - How each product is used by industries for their intermediate consumption
 - How each product is used for consumption capital formation and exports
- Columns of industries in the use table present the amounts of a mix of products and primary inputs that each industry consumes in order to produce output
 - Products purchased by industries for their intermediate consumption
 - Value added at basic prices
 - Provides scope to record costs of each industry in terms of primary inputs
 - Provides scope to include satellite rows for GFCF, capital stock, and labour inputs, for each industry
- Columns of final users show consumption expenditure of products by households, NPISHs and government; and product-wise information on GCF and exports
- Total uses in the use table = total of supply in the supply table, for each product
- Total output = total inputs, for each industry
- Use table is important in SUT and in combination with supply table, provides a single estimate of GDP from all three approaches, production, income and expenditure

Structure of Use Table (2/2)

Adjustment rows in Use Table

- purchases abroad by residents in HFCE
- purchases in the domestic market by non-residents in HFCE (negative) and in exports
- Adjustments will not be needed, if:
 - HFCE estimates are based on household expenditure survey, as the survey covers only the residents. Adjustment is needed only when the estimates are based on retail trade survey
 - The balance of payments includes these data in exports (travel item)

Quadrants of use table

- **Quadrant I:** refers to the intermediate use of products by industries (rows limited to products and columns limited to industries);
- **Quadrant II:** refers to the final use of products (rows limited to products and adjustment items and columns limited to final uses); and
- **Quadrant III:** value added components of industries (rows limited to value added components or its uses and columns limited to industries)

Illustrative Supply and Use Table.

	USE table								
	Agriculture	Mining, manf, utilities	Construction Services	Total inter-industry use	Exports, of consumption expenditure of households/NP	GSO	Final consumption	Gross expenditure on capital formation	Total use at purchasers' prices
(1)	(12)	(13)	(14)	(15)=(12)+(13)+(14)	(16)	(17)	(18)	(19)	(20)=(15)+(16)+(17) +(18)+(19)
1. Agriculture	400	450	130	980	57	2229	15	27	3308
2. Mining, manf, utilities, construction	160	2050	1000	3210	513	1271	130	874	5998
3. Services	242	1217	1362	2821	275	2456	817	1064	7433
4. c.i.f./ f.o.b. adj.									
5. Purchases of residents abroad						10			10
6. Non-residents' purchases in economy						-20			-20
7. IC/final use PP	802	3717	2492	7011	865	5946	962	1965	16749
8. Gross output BP	3245	5163	6594	15002					
9. GVA at BP	2443	1446	4102	7991					
Compensation of emp.	1000	700	2000	3700					
Taxes less subs. on prodn.				0					
CFC	240	140	410	790					
NOS/MI	1203	606	1692	3501					
Employment	294.2	133.8	107	535					

BP: basic prices;
PP: purchasers' prices
CFC: consumption of fixed capital
NOS: net operating surplus
MI: mixed income

Quadrant I: Inter industry consumption (1/2)

- Quadrant I shows inter-industry consumption of goods and services or sales of products made to industries for their intermediate use
- Intermediate consumption (IC) consists of value of goods and services that are used as inputs in the production process resulting in output.
 - Excluded from IC: use of fixed assets, expenditures on valuables
 - Included in IC: expenditures on hand tools of low value
- IC is recorded on an accrual basis: time when goods and services are used in the production process
- $IC = \text{Acquisitions} - \text{Changes in inventories}$

Inter-industry consumption (2/2)

- Intermediate consumption is normally valued in purchasers' prices, as that is the price paid by the producers for the intermediate inputs.
- This price consists of
 - basic price received by the producer of the good or service,
 - transportation costs paid separately by the purchaser,
 - wholesale and retail trade margins, and
 - any non-deductible tax less subsidies on the product payable (these elements are not shown separately in the use table)
- Classifications for industries and products are ISIC and CPC, respectively
- Sources of data for intermediate consumption by industry and products
 - economic censuses, enterprise/establishment surveys, business accounts, government budget documents, administrative data and cost studies or focused input-output surveys on small select units covering each activity.

Discussion Points – Intermediate Consumption

- Typically a lack of data, what can we do?
- Use of administrative data or census to obtain control totals; supplemented by targeted collection activities for detail
 - Purposive surveys, interviews, industry bodies
- Use production function from other countries with a similarly structured industry
- Can further regional cooperation help?

Quadrant II: NPISHs

- NPISHs are legal or social entities created for the purpose of producing services (and sometimes goods) on a non-market basis
 - mainly financed by donations or regular subscriptions
 - not a source of income, profit or other financial gain for the units that establish, control or finance them.
 - can have surpluses but cannot be appropriated by those which establish them.
- **Final consumption expenditures of NPISHs** equals the gross output of producers of NPISHs services less sales of non-capital goods and services plus social transfers in kind.
- The final expenditures of NPISHs are classified according to classification of the purposes of non-profit institutions (COPNI) (housing, health, recreation and culture, education, social protection, religion, political parties, labour and professional organizations) : These need to be converted to a product classification for use table.
- Data sources:
 - tax authorities collect accounts of NPISHs, though exempt from taxation..
 - economic censuses, enterprise surveys, annual accounts, labour force surveys.
 - BoP on current transfers made to NPISHs

Quadrant II: GFCE

GFCE equals government output, less value of government sales of non-capital goods and services, plus social benefits in kind. Classification used is COFOG.

- Output of government services is measured on the cost basis
- Other government expenditures such as subsidies to industries, interest payments, costs of capital goods procurement, transfers, etc. do not form part of output
- Sales include receipts from fees and charges that are not economically significant and, to a minor extent, receipts from sales of market output
- Social benefits in kind include expenditure on consumption goods and services purchased by government from market producers and supplied directly to households without further processing

GFCE includes

- Expenditure on individual services and collective services produced by government itself that are supplied free or at prices not economically significant
 - Individual final consumption expenditures consist services, mainly of (a) Health, (b) Recreation, culture and religion, (c) Education, (d) Social security and welfare, and (e) Housing, refuse collection and sewerage.
 - Current expenditures defined as collective fall under the broad headings of general public services, defense, public order and safety, economic affairs and environment protection but they also include certain expenditures under housing, health, recreation and culture, education and social protection that are considered to benefit the community at large.

Quadrant II: HFCE (1/2)

- Household final consumption expenditures include:
 - All purchases of consumer non-durable and durable goods except dwellings and valuables;
 - Imputed purchases of consumer durables by financial leasing;
 - Imputed gross rental for owner-occupied housing services;
 - Own-account production and consumption of goods
 - Bartered consumer goods and services (net);
 - Domestic services provided by domestic servants;
 - Goods and services in kind provided by enterprises as wages;
 - Imputed financial intermediary (banking, insurance, etc.) service charges;
 - fees paid to government and NPISHs, fees for all kinds of licences and permits
 - Purchases by residents abroad;
 - (Minus) Purchases by non-residents at home.

Quadrant II: HFCE (2/2)

- HFCE is recorded at purchasers' prices paid by households including any transport charges and taxes on products that are payable at the time of purchase
- Individual consumption expenditure of households includes a number of imputed expenditures.
 - Goods consumed out of own production is valued at purchasers' prices, although it is same as basic prices, since there are no trade and transport margins and taxes.
 - Income in kind is valued at purchasers' prices if the employer purchased the products that are provided to employees. It is valued at producers' prices if the products are produced by the enterprise itself.
- Data sources for estimating HFCE are the household income-expenditure surveys, retail trade surveys and other administrative data.
- Commodity flow approaches are widely used to estimate the HFCE
- Classification used for HFCE is COICOP

Quadrant II: Actual final consumption

- The use table also has a provision to record actual final consumption of households, NPISHs and general government
 - Of these, conventionally, the NPISHs do not have actual final consumption, as their expenditures are of the nature of individual final consumption and, therefore, become part of household actual final consumption.
 - The actual final consumption of general government is its collective consumption expenditure. The individual consumption expenditure of general government becomes part of actual final consumption of households.
 - Thus, the actual final consumption of households includes:
 - Household final consumption expenditures;
 - Final consumption expenditures of NPISHs; and
 - Individual final consumption expenditures of general government

Quadrant II: Gross capital formation (1/5)

- Gross capital formation: comprises gross fixed capital formation, changes in inventories and acquisition less disposal of valuables
- **Gross fixed capital formation (GFCF)** includes
 - all expenditure by producers on acquisitions less disposals of produced fixed assets to be used in the production process, such as
 - vehicles, machinery, equipment, buildings and other construction works, cultivated biological resources, weapons systems;
 - intangible assets of computer software, mineral exploration, and literary, artistic and entertainment originals;
 - certain additions or major improvements to non-produced tangible assets (land and sub-soil assets)
 - major renovations to existing assets,
 - own account GFCF
 - capital transfers in kind and
 - fixed assets acquired through barter

Gross capital formation (2/5)

SNA recommends for GFCF data to be shown by following types of assets

- (i) Dwellings
- (ii) Other buildings and structures
- (iii) Machinery and equipment
- (iv) Weapons systems
- (v) Cultivated biological resources
- (vi) Costs of ownership transfer on non-produced assets
- (vii) Intellectual property products

Gross capital formation (3/5)

- GFCF estimates are based on
 - construction surveys, building permits, enterprise surveys, accounts of corporations and NPISHs, government budget documents, foreign trade statistics and the household surveys (on own account construction).
 - commodity flow methods are widely adopted to estimate GFCF by developing countries.
- GFCF is valued at
 - purchasers' prices and include costs of transport and installation and any fees or taxes for transfer of ownership.
 - Own-account GFCF at basic prices or at the costs of production plus estimated operating surplus.

Gross capital formation (4/5)

- Changes in inventories are measured by value of entries into inventories less value of withdrawals and less value of any recurrent losses of goods held in inventories during the accounting period
- Inventories are usually classified into three broad categories
 - Finished goods include goods acquired for resale by wholesalers and retailers, all goods stored by government as strategic reserves, such as food and fuel, and finished goods that are awaiting delivery to customers.
 - Materials and fuels include raw materials and supplies which will be used up as intermediate consumption in the course of production in a future year.
 - Work-in-progress consists of
 - goods and services on which some processing has taken place but which are not yet in a finished form suitable for delivery to customers.
 - In agriculture, work-in-progress consists of the natural growth of vineyards, orchards, plantations and timber tracts and the natural growth in livestock that are being raised for slaughter or milk

Gross capital formation (5/5)

- **Valuables:**
 - Are produced goods of considerable value that are not used primarily for purposes of production or consumption but are held as stores of value over time.
 - Are expected to appreciate or at least not to decline in real value, nor to deteriorate over time under normal conditions.
- They consist of precious metals and stones, jewellery, works of art, etc.
- Acquisitions of valuables are valued at their purchase prices together with associated costs of ownership transfer. Disposals are valued at their sale prices less any associated costs of ownership transfer.
- Supply of valuables can be estimated using the commodity flow methods
- Valuables mostly belong to few product groups included in SUTs, therefore, allocation to products in the use table is based on supply

Quadrant II: Exports

- Exports of goods and services consist of sales, barter, or gifts or grants, of goods and services from resident to non-residents
- In theory, exports occur when transfer of ownership from residents to non-residents takes effect, but in practice change of ownership is deemed to occur when goods cross international boundaries.
- Exports are valued f.o.b. i.e. measured without the costs of transport and insurance services. f.o.b. price is regarded as the purchaser's price.
- exports of services include direct purchases in the domestic market by non-resident households ("tourist expenditures").
- If this data is already included in exports of services, the adjustment item for exports in the standard SUT table "direct purchases by non-resident households" will be zero.
- Data for exports of merchandise (goods) comes mainly from customs
- Data for exports of services comes mainly from balance of payments

Adjustment items in the use table

Adjustment for purchases of residents abroad

- Direct purchases by residents abroad are treated as both imports and HFCE
 - These values are shown in the adjustment rows
 - under imports in supply table
 - under HFCE in use table
 - ESA recommends (i) distributing these expenditures to different products, not in a single adjustment row and (ii) allocating part of these expenditures to intermediate consumption in the case of business travels.

Adjustment for purchases of non-residents in the domestic market

- Direct purchases in the domestic market by non-residents are shown under exports and also as a negative entry under HFCE in the use table, in a separate row at the end of the product rows

This adjustment rows are not required if the HFCE is based on household expenditure survey (since it does not cover non-residents) and if balance of payments include data on such purchases by residents/non-residents

Discussion Points – Final Demand

- Determining final demand categories
 - Separate NPISH sector, or combine with HFCE?
 - How many asset types can be supported?
 - Include or exclude Valuables?
 - Include or exclude Change in Inventories?
- Measuring Informal Sector production from Household Collections

Quadrant III: Compensation of employees

- Total remuneration, in cash or kind, payable by an enterprise to an employee for work done during an accounting period.
- For owners of unincorporated enterprise, they are classified as self-employed and shown under mixed income
- Recorded on an accrual basis
- Included:
 - Wages and salaries (cash or kind)
 - Social insurance contributions payable by employers, either actual or imputed
- Sources of data are the same as those used for estimating domestic production and intermediate consumption

Quadrant III: Consumption of Fixed Capital

- CFC is a cost of production - for use of fixed assets
- It measures the decline in the current value of the stock of fixed assets during the accounting period
- Definition:the decline, during the course of the accounting period, in the current value of the stock of fixed assets owned and used by a producer as a result of:
 - physical deterioration;
 - normal obsolescence; or
 - normal accidental damage.
- CFC is estimated alongwith the estimates of capital stock of industries, which are compiled using perpetual inventory method based on GFCF data of past several years
- CFC is applicable only to produced assets and not to valuables

Quadrant III: Other taxes and subsidies on Production

Other taxes on production

- Comprise all taxes payable out of the value added of producers
 - May be levied on land, fixed assets or the labour employed.
 - Examples are motor vehicle licenses, business licences, real estate taxes, stamp duties, etc.

Other subsidies on production

- They are current transfers that government pays to producers that constitute additions to the income receivable from their output
 - Other subsidies on production lack the characteristics of subsidies on products. Examples are subsidies on payroll or workforce and subsidies for interest relief

Data sources

- The control figures are those available from the budgets.
- Allocation to industries could be based on industry surveys, business accounts, and other administrative data as used for GVA estimation

Quadrant III: Net operating surplus/mixed income and supplementary rows

Net operating surplus: Generally derived as residual

Net operating surplus/mixed income =	GVA from production approach – compensation of employees – consumption of fixed capital – other taxes (less subsidies) on production
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Discussion Points – Factor Income

- Is GDP(I) an important measure in the region?
- Availability of Compensation of Employees data
- Availability of Consumption of Fixed Capital data