

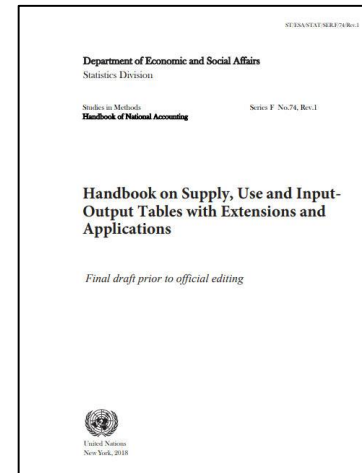


Supply and Use Tables

The
What and Why



- SUTs introduction
 - What are Supply-Use Tables
 - Statistical Benefits
 - Analytical Benefits
 - Input-Output tables
 - Possible Extensions



<https://unstats.un.org/unsd/nationalaccount/pubs.asp>



What Are Supply-Use Tables?

United Nations Statistics Division

- Part of the wider Input-Output Table 'family', Supply-Use Tables (SUTs) are designed to support the production of GDP through coherent and regular benchmarking of estimates
- Matrices by production and industry showing the production processes and transactions for particular products or industries
- Scalable to country circumstance and economy (using standard product and industry classifications)



What Are Supply-Use Tables?

United Nations Statistics Division

- The supply table describes the supply of goods and services, which are either produced in the domestic industry or imported.
- The use table shows where and how goods and services are used in the economy. They can be used either in intermediate consumption or in final use; which in turn is divided into consumption, capital and exports.
- Furthermore the use table shows the income generated in the production process.



Supply table

Products \ Industries	Industries				Imports	Total
	Agriculture, forestry, etc.	Mining and quarrying	...	Services		
Agriculture, forestry, etc. Ores and minerals; etc. ... Services	Output by product by industry				Imports by product	Total supply by product
Total	Total Output by Industry				Total imports	Total supply

Use table

Products \ Industries	Industries				Final uses			Total
	Agriculture, forestry, etc.	Mining and quarrying	...	Services	Final consumption	Gross capital formation	Exports	
Agriculture, forestry, etc. Ores and minerals; etc. ... Services	Intermediate consumption by product and by industry				Final uses by product and by category			Total use by product
Value added	Value added by component and by industry							Value added
Total	Total Output by industry				Total final uses by category			

Empty cells by definition



Simplified numerical example

Supply Table

		Industries			Imports	Total supply
		Agriculture	Manufacturing and Construction	Services		
Products	Agriculture	270	30	50	20	370
	Manufacturing	6	380	87	42	515
	Construction	4	50	13	8	75
	Trade, transport and communication	10	15	210	7	242
	Finance and business services	6	17	240	11	274
	Other services	4	8	100	12	124
	Total	300	500	700	100	1 600

Use Table

		Industries			Final use			Total use
		Agriculture	Manufacturing and Construction	Services	Final consumption expenditure	Gross capital formation	Exports	
Products	Agriculture	34	59	93	131	21	32	370
	Manufacturing	97	107	57	122	73	59	515
	Construction	9	12	4	17	30	3	75
	Trade, transport and communication	42	24	11	140	20	5	242
	Finance and business services	14	53	42	116	31	18	274
	Other services	14	35	22	35	10	8	124
	Total	210	290	229	561	185	125	1 600
Taxes less subsidies on products		4	5	1	52	6	1	80
GVA		86	205	459				750
Total		300	500	700	613	191	126	2 430

Main identities

(1) Supply = Use

Output + Imports =
Intermediate consumption
+ Final consumption +
capital formation + Exports

(2) Output = Input

Output by industry =
intermediate consumption
+ GVA by industry

(3) GVA production =
GVA income

Output-Intermediate
consumption +
Taxes/subsidies =
Compensation of
employees + Gross
operating surplus + Other
taxes/subsidies



- Supply and use tables serve primarily statistical purposes and provide an integrated framework for checking [consistency](#) and [completeness](#) of data

- In order to make GDP calculations more reliable, statisticians use three different methods: [production](#), [income](#) and [expenditure](#)
 - GDP by production: $GDP = Output - Intermediate\ consumption + Taxes/subsidies\ on\ products$
 - GDP by income: $GDP = Compensation\ of\ employees + Gross\ operating\ surplus\ (incl.\ mixed\ income) + Other\ taxes/subsidies\ on\ production$
 - GDP by expenditures: $GDP = final\ consumption\ expenditure + Gross\ capital\ formation + Exports - Imports$

- These three methods may generate different results. In order to eliminate those differences and to find the most [accurate](#) result, statisticians use supply-and-use tables as a balancing framework that [reconciles](#) the three methods of GDP



- The balanced estimates produced are used to benchmark the National Accounts. Using the SUT to produce benchmarks provides rigor:
 - Exhaustive and complete coverage
 - Make the best use of all available data
 - Correct for coverage and other data source issues
 - Produce three coherent measures of GDP



- SUTs are also useful in their own right as a data set
- They show the links between domestic industries, plus links to imports and exports, thus enabling important studies of economic policy
- They typically provide the first 'product' view of interactions within the economy. This is important for analysis focused on products rather than industries



Disaggregation of Use table

- It is recommended to disaggregate the Use table into
 - Domestic Use table
 - Import Use table
- Important to better understand dependencies with other economies

Use table

Products \ Industries	Industries				Final uses			Total
	Agriculture, forestry, etc.	Mining and quarrying	...	Services	Final consumption	Gross capital formation	Exports	
Agriculture, forestry, etc. Ores and minerals; etc. ... Services	Intermediate consumption by product and by industry				Final uses by product and by category			Total use by product
Value added	Value added by component and by industry							Value added
Total	Total Output by industry				Total final uses by category			

Empty cells by definition

Imported products

Domestically produced products



Import Use table

Products \ Industries	Industries					Final uses				Total use at basic prices
	Agriculture	Manufacturing	...	Services	Total	Final Consumption	Gross capital formation	Exports	Total	
Agriculture Manufacturing ... Other Services	Imported products for intermediate consumption at CIF values				Total imported products for intermediate consumption	Imported products for final uses at CIF values			Total imported products for final uses	Imported total use
Total	Intermediate consumption by Industry					Total final uses by category				

Domestic Use table

Products \ Industries	Industries					Final uses				Total use at basic prices
	Agriculture	Manufacturing	...	Services	Total	Final Consumption	Gross capital formation	Exports	Total	
Agriculture Manufacturing ... Other Services	Domestic products for intermediate consumption at basic prices					Domestic products for final uses at basic prices				Total use by product
Total at basic prices	Domestic intermediate inputs at basic prices					Final uses at basic prices				
Imports, CIF	Total imported products for intermediate consumption					Total imported products for final uses				
Taxes less subsidies on products	Net taxes on products for intermediate consumption					Net taxes on products for final use				
Total at purchasers' prices	Intermediate inputs at purchasers' prices					Final uses at purchasers' prices				
GVA	Total value added by industry									
Total Inputs at basic prices	Total input by industry									



Supply table

		INDUSTRIES			Output at basic prices	Imports CIF	Total supply at basic prices	VALUATION MATRICES					Total supply at purchasers' prices	
		Agriculture	Manufacturing	Other				Trade margins	Transport margins	VAT	Taxes on products	Subsidies on products		Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
PRODUCTS	Agriculture (1)	8 782	0	0	8 782	3 271	12 052	1 926	274	329	57	- 107	2 479	14 532
	Manufacturing (2)	796	182 982	2 627	186 405	124 590	310 995	48 838	2 540	13 175	7 866	- 49	72 370	383 364
	Construction (3)	83	961	44 227	45 272	563	45 835	0	0	1 529	13	0	1 542	47 377
	Trade (4)	1	4 773	55 413	60 187	600	60 787	- 52 341	0	575	11	0	- 51 755	9 032
	Transport (5)	13	465	25 857	26 335	8 150	34 485	0	- 2 800	558	71	- 448	- 2 620	31 865
	Communication (6)	160	1 781	46 287	48 228	6 234	54 463	1 493	9	3 375	217	- 34	5 059	59 522
	Finance and business services (7)	29	8 902	118 577	127 508	7 061	134 569	0	- 22	2 706	2 159	0	4 842	139 411
	Other services (8)	3	85	75 555	75 643	824	76 467	85	0	1 201	576	0	1 861	78 329
Total (9)		9 867	199 950	368 543	578 360	151 293	729 653	0	0	23 447	10 969	- 638	33 778	763 431
Adjustments	CIF/FOB adjustments on imports (10)					- 97	- 97						- 97	- 97
	Direct purchases abroad by residents (11)					6 675	6 675						6 675	6 675
Total (12)		9 867	199 950		578 360	157 871	736 230	0	0	23 447	10 969	- 638	40 356	770 009

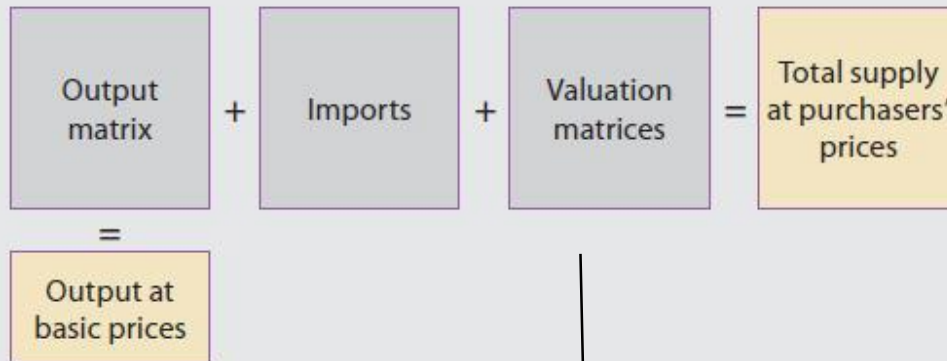


Use table at purchasers' prices

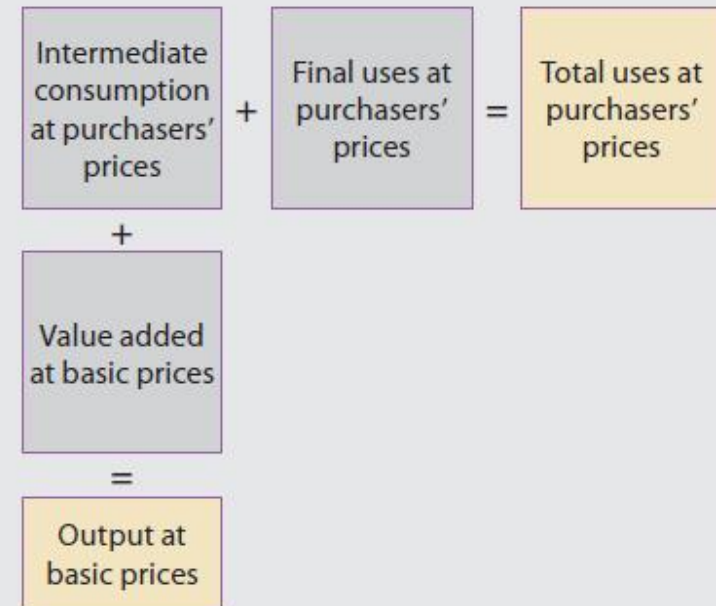
		INDUSTRIES										Total use at purchasers' prices (11)
		Agriculture	Manufacturing	Other	Total	Final consumption expenditure	Gross fixed capital formation	Changes in valuables	Changes in inventories	Exports	Total	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
PRODUCTS	Agriculture (1)	2 583	6 570	470	9 623	3 595	180		- 27	1 161	4 909	14 532
	Manufacturing (2)	2 205	107 190	44 127	153 522	74 617	26 756	2 183	3 034	123 252	229 842	383 364
	Construction (3)	105	2 440	17 484	20 029	1 667	25 155		- 38	563	27 348	47 377
	Trade (4)	33	1 883	2 926	4 842	3 325	67	45		753	4 189	9 032
	Transport (5)	14	4 386	9 808	14 208	9 203				8 453	17 656	31 865
	Communication (6)	34	2 563	17 411	20 008	26 566	5 976		67	6 905	39 514	59 522
	Finance and business services (7)	457	13 578	63 395	77 430	39 843	11 170		- 178	11 145	61 981	139 411
	Other services (8)	8	382	3 439	3 829	73 712	113	107	1	567	74 500	78 329
	Total at purchasers' prices before adjustments (9)	5 440	138 991	159 061	303 492	232 528	69 418	2 335	2 859	152 800	459 939	763 431
Adjustments	CIF/FOB adjustments on exports (10)									- 97	- 97	- 97
	Direct purchases abroad by residents (11)					6 675					6 675	6 675
	Purchases in the domestic territory by non-residents (12)					- 12 945				12 945		
	Total at purchasers' prices (13)	5 440	138 991	159 061	303 492	226 258	69 418	2 335	2 859	165 648	466 517	770 009
	GVA (19)	4 427	60 959	209 481	274 868							
	Total input at basic prices (20)	9 867	199 950	368 543	578 360							



Supply table



Use table



Trade and transport margin
Taxes and subsidies on products (incl. import duties (tariffs))

- Compile Valuation matrices to obtain SUTs at *basic prices*



Set of tables recommended for compilation

United Nations Statistics Division

- SUTs at purchasers' prices
- SUTs at basic prices
- Use table at basic price with the split of
 - Domestic Use table
 - Import Use table
- GVA by industry and by factor incomes and by institutional sector



- SUTs are a foundational piece of statistical infrastructure, in addition to ensuring National Accounts quality, they are typically the starting point for:
 - Input-Output Tables (particularly symmetrical product by product tables)
e.g. study the links between final uses and levels of industrial output, impact analysis, productivity analysis, employment effects, analysis of the interdependence of structures and analysis of price change, etc.
 - Environmental Accounts and Extensions
Water accounts, energy accounts, etc.
 - Global production studies – TiVA and GVCs
 - Satellite Accounts including Tourism and Non-Profit Institutions Satellite Accounts, etc.



- The SUTs can be extended to better analyze specific areas of interest. For example,
 - To better capture firm heterogeneity, the industry breakdown can be further disaggregated according to size of the firm (e.g. MNEs, SMEs...), ownership (foreign vs domestic owned), trade characteristics (e.g. exporter only, importer-exporter, etc.).
 - Including information on **jobs** (e.g. hour worked, e.g.)
 - information on Trade partners
 - Assets
 - Etc.
- **More on these extensions later**



- Primarily SUTs are used to produce coherent, comprehensive and relevant National Accounts

- The design of the SUT (size, structure, frequency etc) will be informed by the needs of policy makers:
 - Productivity
 - Employment
 - Industry Policy
 - Monetary Policy
 - Government Budget/Macroeconomic Policy
 - Etc

- What are the primary needs policy makers have for national accounts data in the ESCWA region?



- What are the implications of these policy needs on the compilation of SUTs:
- How frequently should the SUTs be produced?
- Will they produced as a time series? What is the revisions policy?
- Do they need to be in both current and constant price terms?