

COUNTRY PRESENTATION OF GROSS OUTPUT AND INTERMEDIATE CONSUMPTION MATRICES

BPS – STATISTICS INDONESIA TOWARDS SUT IMPLEMENTATION

Supriyanto

Director of Production Account Directorate

The views expressed in this presentation are the views of the speaker and do not necessarily reflect the views or policies of the Asian Development Bank (ADB), or its Board of Governors, or the governments they represent. ADB does not guarantee the accuracy of the data included in this paper and accepts no responsibility for any consequence of their use. Terminology used may not necessarily be consistent with ADB official terms.

OUTLINE OF PRESENTATION

- Choice of base year
- Level of aggregates
- List of specific data sources used
- Compilation methodology
- Summary of results and findings
- Issue and problems encountered

CHOICE OF BASE YEAR

- SUT Indonesia is derived from IO table, as in the first step of IO table compilation is to develop supply and use matrices
- The compilation of IO table is done regularly every 5-year
- The latest year of IO table available is 2005

LEVEL OF AGGREGATES

- Indonesia IO table is classified into 175 sectors which is based on homogeneity of commodity or activity
- In concordance with classification used in Matrix 1 (GO) and Matrix 2 (IC), we conduct aggregation; 175 IO sectors are reclassified into 1 digit ISIC rev. 3.1 (for column) and 1 digit CPC v.1 (row)
- Therefore, 175 x 175 matrix of IO sectors is aggregated into 10 x 17 matrix of ISIC by CPC classification

LIST OF SPECIFIC DATA SOURCES USED

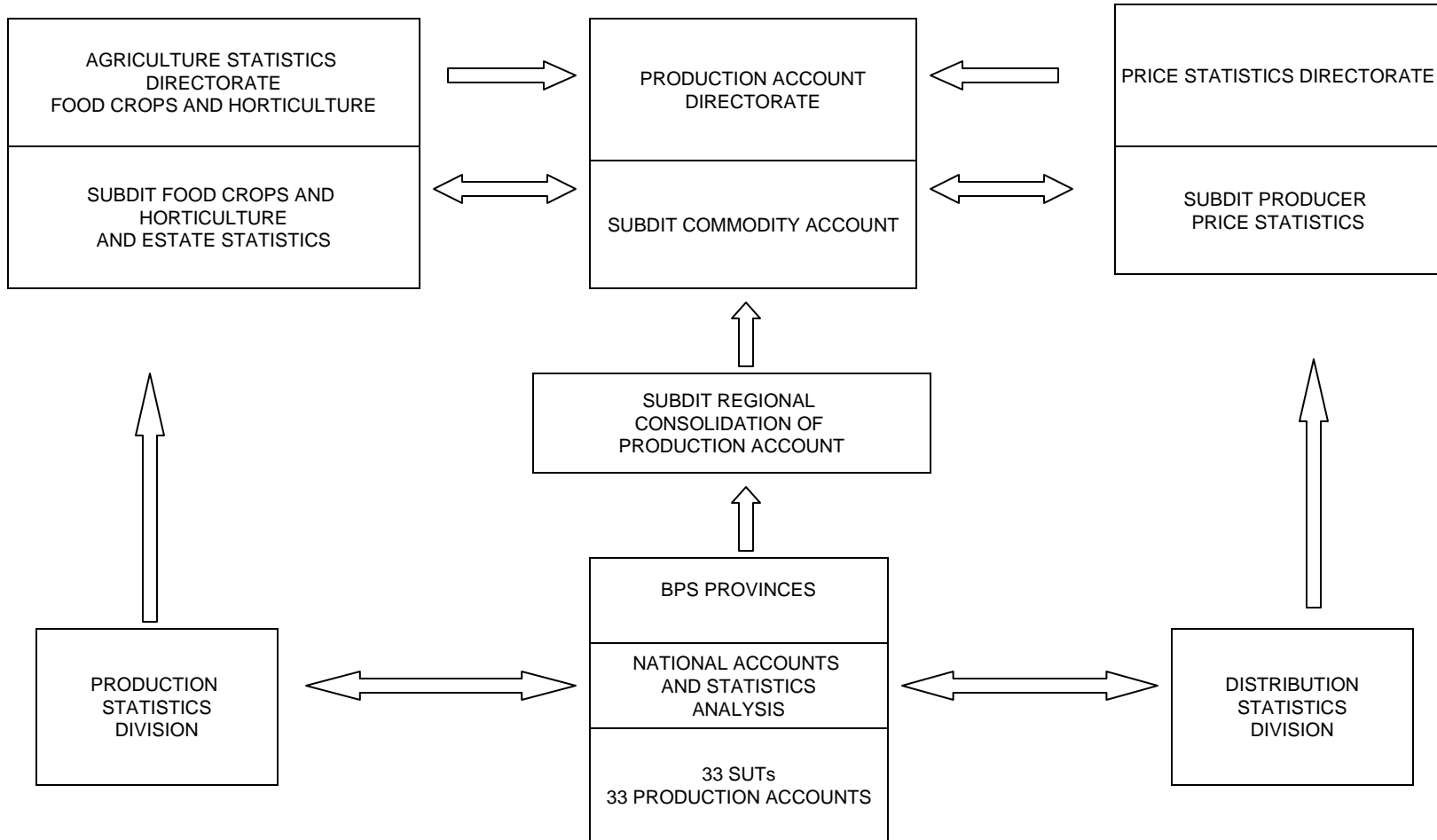
- Basically, 2005 IO table is the main data source
- Data on Gross Output were gathered from various sources, such as:
 - Ministry of Agriculture
 - Ministry of Energy & Mineral Resources
 - Ministry of Transportation
 - Ministry of Education
 - Ministry of Finance
 - State Owned Enterprises (Pertamina, PGN, PLN, etc)
- Data on Intermediate Consumption compiled from various censuses and surveys conducted by BPS, such as:
 - Agriculture Census
 - Economic Census
 - Various special surveys on cost structures (SKIO, SKKI, SPPB, SKSPJ, etc)

COMPILATION METHODOLOGY

- There are two kinds of compilation method:
 1. Direct approach/Survey Method
 - One way to gather/collect data/information on population based on samples observation.
 - Accurate and detail information can be achieved
 2. Indirect approach
 - Non-Survey Method: applicable only for compilation of IO Updating Table
 - Semi Survey Method: combination of survey and non-survey method

SUMMARY OF RESULTS AND FINDINGS

ILLUSTRATIVE CASE SUT (Special Case for Paddy)



PRODUCTION ACCOUNT-PADDY INDONESIA, 2005

INPUT			OUTPUT	
	Value (Million Rp.)	(%)		Value (Million Rp.)
I. Intermediate input:	22,409,997	26.48	Output paddy	84,644,361
Paddy seed	5,575,315	6.59	Production paddy (Ton)	54,151,097
Fertilizer (kompos, animal waste, dll)	7,118,579	8.41	Price (Rp./kg)	1,563.11
Pesticides	480,476	0.57		
Fuel & gasoline	9,073	0.01		
Others :				
- Agriculture services	4,549,860	5.38		
- Agriculture equipments & apparatus	70,423	0.08		
- Wood	2,617	0.00		
- Textile & its products	25,300	0.03		
- Plastics & its products	12,862	0.02		
- Machinery & apparatus	5,004	0.01		
- Agriculture infrastructure	604,829	0.71		
- Trade services	956,503	1.13		
- Transportation services	596,895	0.71		
- Machinery & apparatus maintenance services	655,315	0.77		
- Corporate services	861,406	1.02		
- Banking & financial services	885,494	1.05		
- Other goods & services	45	0.00		
II. Gross Domestic Product (GDP)	62,234,364	73.52		
Salary & wages	10,726,885	12.67		
Operational surplus	49,605,483	58.60		
Depreciation	1,121,033	1.32		
Indirect tax	911,519	1.08		
Subsidies	(130,556)	-0.15		
Total Input	84,644,361	100.00	Total Output	84,644,361

PADDY BY PROVINCES: SUPPLY AND USE TABLES

No.	Provinces	Output			Import (Million Rp)	TOTAL SUPPLY (Million Rp)	Intermediate Demands (Million Rp)				Final Demands (Million Rp)	TOTAL USE (Million Rp)
		Production (Ton)	Price (Rp/kg)	Value (Million Rp)			Paddy	Rice	Other	Total ID		
(1)	(2)	(3)	(4)	(5)=(3)+(4)	(6)	(8)=(5)+(6)+ (7)	(9)	(10)	(11)	(12)=(9)+(10) +(11)	(13)	(14)=(12)+(13)
1	Nanggroe Aceh Darussalam	1,411,650	1,563	2,206,570	18	2,206,588	145,341	2,004,095	16,438	2,165,875	40,713	2,206,588
2	Sumatera Utara	3,447,394	1,563	5,388,671	43	5,388,715	354,939	4,894,206	40,144	5,289,289	99,425	5,388,715
3	Sumatera Barat	1,907,390	1,563	2,981,469	24	2,981,493	196,382	2,707,889	22,211	2,926,482	55,011	2,981,493
4	Riau	424,095	1,563	662,909	5	662,914	43,664	602,080	4,939	650,683	12,231	662,914
5	Jambi	579,635	1,563	906,036	7	906,043	59,678	822,898	6,750	889,326	16,717	906,043
6	Sumatera Selatan	2,320,110	1,563	3,626,597	29	3,626,627	238,875	3,293,821	27,017	3,559,713	66,914	3,626,627
7	Bengkulu	441,276	1,563	689,765	6	689,770	45,433	626,472	5,139	677,044	12,727	689,770
8	Lampung	2,124,144	1,563	3,320,280	27	3,320,307	218,699	3,015,611	24,735	3,259,045	61,262	3,320,307
9	Kep. Bangka Belitung	19,027	1,563	29,741	0	29,741	1,959	27,012	222	29,193	549	29,741
10	Kepulauan Riau	312	1,563	488	0	488	32	443	4	479	9	488
11	DKI Jakarta	13,335	1,563	20,844	0	20,844	1,373	18,931	155	20,460	385	20,844
12	Jawa Barat	9,787,217	1,563	15,298,540	123	15,298,663	1,007,677	13,894,745	113,970	15,016,392	282,271	15,298,663
13	Jawa Tengah	8,424,096	1,563	13,167,826	106	13,167,932	867,332	11,959,545	98,097	12,924,975	242,957	13,167,932
14	Dista Yogyakarta	670,703	1,563	1,048,386	8	1,048,394	69,055	952,186	7,810	1,029,050	19,344	1,048,394
15	Jawa Timur	9,007,265	1,563	14,079,386	113	14,079,499	927,374	12,787,461	104,888	13,819,723	259,776	14,079,499
16	Banten	1,861,776	1,563	2,910,169	23	2,910,192	191,686	2,643,132	21,680	2,856,497	53,695	2,910,192
17	Bali	786,961	1,563	1,230,110	10	1,230,120	81,024	1,117,235	9,164	1,207,423	22,697	1,230,120
18	Nusa Tenggara Barat	1,367,869	1,563	2,138,136	17	2,138,153	140,834	1,941,940	15,929	2,098,703	39,450	2,138,153
19	Nusa Tenggara Timur	461,007	1,563	720,607	6	720,612	47,465	654,484	5,368	707,317	13,296	720,612
20	Kalimantan Barat	1,023,684	1,563	1,600,135	13	1,600,148	105,397	1,453,307	11,921	1,570,624	29,524	1,600,148
21	Kalimantan Tengah	492,250	1,563	769,443	6	769,449	50,681	698,839	5,732	755,252	14,197	769,449
22	Kalimantan Selatan	1,598,835	1,563	2,499,162	20	2,499,182	164,614	2,269,839	18,618	2,453,071	46,112	2,499,182
23	Kalimantan Timur	499,558	1,563	780,866	6	780,873	51,434	709,214	5,817	766,465	14,408	780,873
24	Sulawesi Utara	432,624	1,563	676,241	5	676,246	44,542	614,189	5,038	663,769	12,477	676,246
25	Sulawesi Tengah	716,906	1,563	1,120,606	9	1,120,615	73,812	1,017,779	8,348	1,099,939	20,676	1,120,615
26	Sulawesi Selatan	3,390,397	1,563	5,299,578	43	5,299,621	349,070	4,813,289	39,481	5,201,840	97,782	5,299,621
27	Sulawesi Tenggara	339,847	1,563	531,220	4	531,224	34,990	482,475	3,957	521,423	9,801	531,224
28	Gorontalo	167,152	1,563	261,278	2	261,280	17,210	237,303	1,946	256,459	4,821	261,280
29	Sulawesi Barat	253,886	1,563	396,853	3	396,856	26,140	360,438	2,956	389,534	7,322	396,856
30	Maluku	37,239	1,563	58,209	0	58,209	3,834	52,868	434	57,135	1,074	58,209
31	Maluku Utara	57,945	1,563	90,575	1	90,575	5,966	82,264	675	88,904	1,671	90,575
32	Papua	60,810	1,563	95,053	1	95,054	6,261	86,331	708	93,300	1,754	95,054
33	Papua Barat	24,702	1,563	38,612	0	38,612	2,543	35,069	288	37,900	712	38,612
	INDONESIA	54,151,097	1,563	84,644,361	680	84,645,041	5,575,315	76,877,389	630,579	83,083,283	1,561,757	84,645,041

**ANNEX:
MATRIX 1 (GROSS OUPUT) AND
MATRIX 2 (INTERMEDIATE CONSUMPTION**

MATRIX OF GROSS OUTPUT AND INTERMEDIATE CONSUMPTION

INDONES

Country: IA
Sector: A-I
Reference Year: 2005
Basic Source/Sources of information: IO TABLE 2005

Matrix 1. GROSS OUTPUT (At Producer Prices)

(in Million Rupiah)

Matrix 2. INTERMEDIATE CONSUMPTION (At Producer Prices)

(in Million Rupiah)

CPC V1.1	ISIC REV3.1 Description	A	B	C	D	E	F	G	H	I	A	B	C	D	E	F	G	H	I
		Agriculture, hunting and forestry	Fishing	Mining and quarrying	Manufacturing	Electricity, gas and water supply	Construction	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	Hotels and restaurants	Transport, storage and communications	Agriculture, hunting and forestry	Fishing	Mining and quarrying	Manufacturing	Electricity, gas and water supply	Construction	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	Hotels and restaurants	Transport, storage and communications
0	Agriculture, forestry and fishery products	418,118,501	72,761,159								30,236,212	2,671,235	48,838	231,119,920	14,925,686	9,254,686	62,636	2	72,737
1	Ores and minerals; electricity, gas and water			387,251,332		88,893,503					173,355	96,079	48	207,627,422	26,158,450	31,811,380	11,106,385	1,020,324	4,038,499
2	Food products, beverages and tobacco; textiles, apparel and leather products				776,181,824						19,016,027	3,403,374	100,351	167,324,720	12,120	428,355	3,449,066	56,126,621	1,221,967
3	Other transportable goods, except metal products, machinery and equipment				747,713,731						24,046,256	2,766,411	6,394,949	248,399,251	25,280,784	112,791,338	41,752,033	1,933,084	65,532,499
4	Metal products, machinery and equipment				604,248,372						1,905,472	568,694	6,056,298	225,041,360	1,753,724	114,678,592	42,116,556	284,182	14,280,589
5	Construction services						578,441,811				4,149,316	192,545	4,013,353	2,446,655	847,948	589,416	9,242,759	107,275	6,377,921
6	Distributive trade services; lodging; food and beverage serving services; transport services; and utilities distribution services							507,854,209	223,080,429	398,425,512	13,239,299	3,175,801	7,561,191	173,386,938	4,317,226	65,684,715	55,691,562	25,458,470	49,805,675
7	Financial and related services; real estate services; and rental and leasing services										4,834,054	342,988	2,416,872	29,513,025	1,043,493	7,509,064	55,589,615	2,098,948	11,124,882
8	Business and production services										1,817,334	26,340	2,790,974	25,316,476	2,383,372	25,319,165	18,915,781	1,622,095	13,899,290
9	Community, social and personal services							127,697,865			2,570,700	33,148	3,521,442	25,316,476	185,672	2,512,088	11,920,850	658,102	36,655,972

MATRIX OF GROSS OUTPUT AND INTERMEDIATE CONSUMPTION

Country: INDONESIA
 Sector: J-Q
 Reference Year: 2005
 Basic Source/Sources of information: IO TABLE 2005

Matrix 1. GROSS OUTPUT (At Producer Prices)

(in Million Rupiah)

Matrix 2. INTERMEDIATE CONSUMPTION (At Producer Prices)

(in Million Rupiah)

CPC V1.1	ISIC REV3.1	J	K	L	M	N	O	P	Q	Total Output Domestic	J	K	L	M	N	O	P	Q	Total Intermediate Consumption
	Description	Financial intermediation	Real estate, renting and business activities	Public administration and defence; compulsory social security	Education	Health and social work	Other community, social and personal service activities	Activities of private households as employers and undifferentiated production activities of private households	Extraterritorial organizations and bodies		Financial intermediation	Real estate, renting and business activities	Public administration and defence; compulsory social security	Education	Health and social work	Other community, social and personal service activities	Activities of private households as employers and undifferentiated production activities of private households	Extraterritorial organizations and bodies	
0	Agriculture, forestry and fishery products									490,879,660	25	63,481	13,332	286,046	8,089,552	1,310,664	537,741	0	316,339,921
1	Ores and minerals; electricity, gas and water									476,144,835	1,083,489	1,198,013	1,723,835	1,770,041	306,116	320,829	1,013,988	0	326,625,653
2	Food products, beverages and tobacco; textiles, apparel and leather products									776,181,824	131,769	678,347	586,214	607,240	7,748,020	4,755,714	425,245	0	267,008,150
3	Other transportable goods, except metal products, machinery and equipment									747,713,731	3,280,511	3,454,285	8,941,556	20,185,198	7,003,117	963,469	1,965,255	0	574,689,996
4	Metal products, machinery and equipment									604,248,372	1,442,778	6,329,228	4,405,049	2,508,483	485,808	669,765	243,163	0	422,769,741
5	Construction services									578,441,811	975,855	9,127,156	8,319,647	2,138,231	287,153	449,790	195,452	0	49,460,472
6	Distributive trade services; lodging; food and beverage serving services; transport services; and utilities distribution services									1,129,360,150	6,365,062	9,046,637	21,724,945	8,151,063	6,923,226	2,917,528	1,852,897	0	455,302,235
7	Financial and related services; real estate services; and rental and leasing services	174,486,766	98,221,325							272,708,091	36,352,901	8,055,531	3,686,948	2,897,224	535,455	655,709	2,828,242	0	169,484,951
8	Business and production services		79,479,957							79,479,957	7,155,822	4,753,762	2,762,243	3,286,589	1,135,993	1,324,642	868,383	0	113,378,261
9	Community, social and personal services			144,823,792	122,134,625	62,706,840	33,474,771	42,277,959	0	533,115,852	3,662,992	9,638,922	8,864,508	6,766,601	1,105,184	4,323,694	614,818	0	116,323,265
	Total	174,486,766	177,701,282	144,823,792	122,134,625	62,706,840	33,474,771	42,277,959	0	5,688,274,283	60,451,204	52,345,362	61,028,277	48,596,716	33,619,624	17,691,804	10,545,184	0	2,811,382,645

ISSUES AND PROBLEMS ENCOUNTERED

- Procuring technical assistance for SNA esp. SUT
- Self-learning SUT framework from SNA manual
- Drafting electronic processing system (integrated software system) for SUT framework
- Identifying various obstacles toward SUT implementation

OBSTACLES IDENTIFICATION





- a. Classification system offered by ADB is different with classification used nowadays, BPS toward new classification as recommended by ADB:
 - Sectoral classification: industry ISIC 3.1, commodity CPC
 - Household consumption: Coicop & ISIC 3.1
 - Government expenditure: Cofog & ISIC 3.1
 - Export & Import: HS & ISIC 3.1

OBSTACLES IDENTIFICATION

- b. Valuation at basic price is never been done before, BPS only conducted valuation at producer price (for output) and purchaser price (for intermediate and final consumption)
- c. Coverage for output inclusive to marketed output only, there is no estimate for non-marketed output
- d. Tax on product matrix based on commodity (CPC) and industry (ISIC 3.1) is not available yet

OBSTACLES IDENTIFICATION

- e. TTM matrix based on commodity (CPC) and industry (ISIC 3.1) is not available yet
- f. Problems on sectoral input structure:
 - No detail aggregation on cost items (by CPC)
 - No comparability among regions/provinces
 - Method of estimation varied between industry and/or regions
- g. Setup correspondence tables among classifications (bridging correspondence) still in progress

Code	ACTIVITY	
1.	GDP Productions (P)	
1.1.	Compile gross output at basic prices: commodities by industry (Matrix 1).	
1.1.1.	Implement standard classification based on industry (ISIC rev. 3.1) and commodity (CPC)	
1.1.2.	Compile marketed output at producer's price	
1.1.3.	Compile/estimate own used output	
1.1.4.	Estimate non-marketed output	
1.1.5.	Compile/disaggregate tax on product based on commodities & industry	
1.1.6.	Estimate gross output at basic price by deducting output at producer's price with TTM and tax on product	
1.2.	Compile intermediate consumption at purchaser's price (Matrix 2)	
1.2.1.	Implement the same standard classification as on Gross Output (Matrix 1)	
1.2.2.	Compile intermediate consumption by ISIC rev. 3.1 & CPC	
1.2.3.	Estimate gross value added broken down by components:	
1.2.3.1.	Compensation of employees	
1.2.3.2.	Taxes less subsidies on production and imports	
1.2.3.2.1.	Other taxes less subsidies on production	
1.2.3.3.	Mixed income, net	
1.2.3.3.1.	Operating surplus, net	
1.2.3.3.2.	Consumption of fixed capital	
1.2.3.3.3.	Mixed income, gross	
1.2.3.3.4.	Operating surplus, gross	
1.3.	Compile TTM, taxes on product, subsidies on product (Matrix 3)	
1.3.1.	Estimate TTM based on CPC and ISIC rev. 3.1	
1.3.2.	Taxes on products	
1.3.3.	Subsidies on products	
2.	GDP Expenditures (E)	
2.1.	Compile Final Consumption (Matrix 4).	
2.1.1.	Implement standard classifications attribute to types of expenditure	
2.1.2.	Setup correspondence tables between each classification and CPC classification	
2.1.3.	Compute Household consumption (brokendown into individual & collective) by COICOP	
2.1.4.	Compute NPISH consumption by COPNI	
2.1.5.	Compute General Government consumption (brokendown into individual & collective) by COFOG	

Code	ACTIVITY	
2.2.	Compile Imports at c.i.f. and Exports at f.o.b (Matrix 5)	
2.2.1.	Setup correspondence table between HS & CPC classification	
2.2.2.	Compile/estimate Imports breakdown into goods and services	
2.2.3.	Compile/estimate Exports breakdown into goods and services	
2.2.4.	Estimate c.i.f/f.o.b adjustment on imports	
2.2.5.	Estimate direct purchased by residents abroad (for imports adj.)	
2.2.6.	Estimate direct purchased by residents abroad (for Household consumption adj.)	
2.2.7.	Estimate direct purchased by non-residents (for Exports adj.)	
2.3.	Compile Gross capital formation (Matrix 6).	
2.3.1.	Setup correspondence table between COPP & CPC classification	
2.3.2.	Compile gross fixed capital formation based on COPP classification	
2.3.3.	Compile changes in inventories and	
2.3.4.	Compile acquisition less disposables of valuables	
3.	GDP Incomes (I)	
3.1.	Compile value added components by industry (Matrix 7)	
3.1.1.	Compensation of employees	
3.1.2.	Taxes less subsidies on production and imports	
3.1.2.1.	Taxes on products	
3.1.2.2.	Subsidies on products	
3.1.2.3.	Other taxes less subsidies on production	
3.1.3.	Mixed income, net	
3.1.3.1.	Operating surplus, net	
3.1.4.	Consumption of fixed capital	
3.1.3.2.	Mixed income, gross	
3.1.3.3.	Operating surplus, gross	
4.	Compilation of SUT	
4.1.	- Provide list of specific data sources used in the compilation of gross output and intermediate consumption matrices	
4.2.	- Compile final demand, trade and transport margin, taxes less subsidies and other matrices for the compilation of SUT and minimum requirement data set	
4.3.	- Compile preliminary SUT	
4.4.	- Submit preliminary balance SUT	

THANK YOU!