
Changes to legislation: There are outstanding changes not yet made to Council Regulation (EC) No 2223/96. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) View outstanding changes

ANNEX A

EUROPEAN SYSTEM OF ACCOUNTS ESA 1995

CHAPTER 8

SEQUENCE OF ACCOUNTS AND BALANCING ITEMS

MATRIX PRESENTATION

ADAPTATION OF THE REDUCED FORMAT MATRIX TO SPECIFIC TYPES OF ANALYSIS

- 8.133. The supply and use tables opt for a classification of rows and columns which is most suitable to describe the economic processes under consideration, namely the processes of production and use of products. However, those matrices do not incorporate the interrelations between value added and final expenditure. By extending a supply and use table, or an input-output table, to show the entire circular flow of income at a meso-level, one captures an essential feature of a Social Accounting Matrix (SAM).
- 8.134. A SAM is defined here as: The presentation of ESA-accounts in a matrix which elaborates on the linkages between a supply and use table and sector accounts. SAMs typically focus on the role of people in the economy, which may be reflected by, among other things, extra breakdown of the household sector and a disaggregated representation of labour markets (i. e. distinguishing various categories of employed persons).
- 8.135. An important social concern is the level and composition of (un)employment. A SAM commonly provides additional information on this issue, via a subdivision of compensation of employees by type of person employed. This subdivision applies to both the use of labour by industry, as shown in the supply and use tables, and the supply of labour by socio-economic subgroup, as shown in the allocation of primary income account for households. It implies that the matrix presents not only the supply and use of various product groups, but also the supply and use of various categories of labour services.
- 8.136. The classification of (self-)employed persons may be based on a combination of background and (main) job characteristics, such as sex, schooling, age and place of residence on the one hand, and occupation, type of job contract (full-time/part-time, permanent/temporary) and region and subsector of employment on the other hand. Another consideration should be that within-group variations in relative wage rate changes are smaller than between-group variations. A classification by industry of employment is less relevant, because this is already shown in the SAM by the cross-classification of value added.
- 8.137. Both resident persons employed in non-resident enterprises and non-resident persons working for resident enterprises plus employees working temporarily abroad should be set apart. In this way, employment can be estimated by counting the number of (national) employed person units. Evidently, this includes the self-employed, for whose labour input an imputed remuneration may then be isolated from the rest of net mixed income in the SAM.
- 8.138. In particular, comparing (1) labour incomes of all employed persons as shown in the SAM, (2) a decomposition of these incomes into hours worked and average wage rates per hour and (3) the potential supply of labour by

Changes to legislation: There are outstanding changes not yet made to Council Regulation (EC) No 2223/96. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) View outstanding changes

Net worth																	Open net in external financial position, total	Change in external financial position, total
	Total	4	3	2	2	1	2951	64	137916	53517	10	49741	-	50	50	7	573-34	630242
		225728015739615					055		714	926951			37				34	242

type of person and household group (expressed in ‘full-time’ equivalents) yields detailed information on the composition of unemployed and an aggregate indicator (‘full-time equivalent unemployment’) which is consistent, both conceptually and numerically, with the other macro-economic indicators; these can also be derived from the SAM framework. Moreover, juxtaposing the head-count of the employed persons (excluding foreigners) and the potential labour force in this data set reveals unemployment as conventionally defined.

- 8.139. At this stage, it is perhaps useful to work out an illustrative SAM. For this purpose, table 8.20 exemplifies the design of a SAM which records all transactions distinguished in the system (that is, all flows excluding ‘other changes in assets’). The main novelty refers to a new meaning that is attached to the generation of income account, in order to facilitate a linkage of detailed labour market analyses and the national accounts. The aggregate SAM shown here is meant as a summary table, to which subsequent, more detailed tables can refer. Possible types of classification in each account are indicated in parentheses in the row and column headings.
- 8.140. The sequence of accounts in this matrix is the same as in table 8.19. Turning that matrix into the aggregate SAM presented here implies:
- deleting the other changes in assets account, the opening balance sheet, the changes in balance sheets account, the closing balance sheet and the net worth account, both for the total economy and for the rest of the world, and deleting the external financial account;
 - subdividing the primary distribution of income account and the second capital sub-account; and
 - combining both capital sub-accounts (excluding fixed capital formation) and combining the external account of goods and services and the external account of primary incomes and current transfers.
- 8.141. The first two rows and columns of table 8.20 contain an aggregated version of the supply and use table, here explicitly linked up with the other accounts of the system. Note that rows and columns of the supply table (cell II,I) have been transposed.
- 8.142. The third account records the generation of income and plays an important role. It is classified by primary input category: (1) compensation of various types of employees, (2) other taxes less subsidies on production, (3) net operating surplus and (4) net mixed income.
- 8.143. Here, this account accommodates transactions between two different types of units. In particular, this refers to compensation of employees, which is recorded as a transaction (work in return for compensation) between an institutional unit (employer) and a

Changes to legislation: There are outstanding changes not yet made to Council Regulation (EC) No 2223/96. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) View outstanding changes

person (employee). In this SAM, employed persons are considered as separate units who receive compensation of employees in the generation of income account and distribute this income to their household in the allocation of primary income account. These units are subsequently classified into groups of (self-)employed persons. This representation serves to integrate labour market analyses and the national accounts.

- 8.144. The (residual) mixed income and operating surplus remain with the producing unit, but the classification of producing units need not be the same as in the production account. In effect, some classification by institutional subsector is particularly relevant to operating surplus and mixed income. This implies a cross-classification of these value added components by industry and institutional subsector in the SAM.
- 8.145. As the balancing item in cell (III,II) equals total domestic value added, the primary input categories encompass all persons employed in resident enterprises. In column III, compensation of non-resident persons employed in resident enterprises is then handed over to the rest of the world. A meaningful, national balancing item is only obtained in account III if compensation of resident persons employed in non-resident enterprises is added first. This is done in row III and for this purpose a separate category, resident persons employed in non-resident enterprises, may be created. An additional advantage of inserting this category is that it facilitates the estimation of employment as conventionally defined.
- 8.146. The result of all this is that the generation of income account is closed with a new balancing item (1 473), in between the total net value added and NNI. This balancing item, named total net generated income, at basic prices, gives total income earned by resident institutional units as a result of being engaged in production.
- 8.147. The allocation of primary income account of a detailed SAM presents household labour income(s) as a contribution by one or more (self-)employed household members. Among other things, this will indicate to what extent each household group depends on multiple sources of (labour) income. Apart from this, the transaction categories in the distribution and use of income accounts are the same as in the previous table.
- 8.148. In the design of this SAM, the capital and financial accounts have been interlaced, with the financial account classified not by institutional sector but by type of financial asset. As a consequence, a disaggregation of this SAM would show, by institutional subsector, both acquisitions less disposals of various types of financial assets, see cell (IX,VII), and incurrence less repayment of various types of liabilities, see cell (VII,IX). These two categories of transactions have been combined as far as the rest of the world is involved. This serves to include the balancing item net lending in table 8.20, though with a reverse sign when viewed from the standpoint of the national economy (cell IX,XI).
- 8.149. A large part of total volume changes in net worth probably consists of increases in fixed assets. If one is particularly interested in the dynamics of an economy, it is important to show in which industries production capacity has been expanded. This is the aim of the fixed capital formation account (account VIII) inserted in this SAM. A more detailed table would then present:
- (a) who invests where in the rows of this account — cell (VIII,VII); and
 - (b) where does one invest in what in the columns — cell (I,VII).

In this case, the who refers to an institutional subsector, the where refers to an industry, and the what refers to a product group. Through this fixed capital formation account the SAM shows

Changes to legislation: There are outstanding changes not yet made to Council Regulation (EC) No 2223/96. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) View outstanding changes

at a meso-level the linkages which exist between fixed capital formation by institutional sector, as presented in the capital account, and fixed capital formation by product group, as contained in the supply and use tables.

8.150. Table 8.21 serves to illustrate what kind of information can be derived from a more detailed SAM. Its main purpose is to show:

- (a) the circular flow of income, including a subdivision of labour income by a few categories of employed persons; this enables a more detailed analysis of the linkage between value added of industries and primary income of household subgroups;
- (b) the interdependence between the distribution of income and the structure of production; among other things, this is related to diverging demand patterns of various household subgroups;
- (c) the subsectoral allocation of saving, including a subdivision of fixed capital formation by investing industry; this enables a more detailed analysis of the linkage between fixed capital formation of subsectors and fixed capital formation by product group.

For purposes of presentation, the number of groups in each account is kept to a minimum. Obviously, a fully-fledged SAM should distinguish more categories per account.

8.151. As a SAM integrates both income and expenditure flows and the supply and use tables at a meso-level, it may serve as a format for the estimation of a wide set of accounts. The SAM approach is particularly useful if one wants to reconcile detailed information on, for example, production and international trade with basic data from, for example, a labour force survey, a household budget survey and an investment survey for industries. In addition, casting accounts into a SAM framework implies that matrix algebra can be applied to balance them.

8.152. Integration of more basic data entails the possibility of more policy issues being monitored, and analysed and interrelated. Above all, the linkage of employment and income distribution aspects to more macro-oriented objectives such as NDP growth, balance of payments equilibrium, stable price levels, etc. comes within reach with a SAM. In addition, the SAM provides a framework and consistent (base-year) data for economy-wide (general equilibrium) models with detailed classifications of actors, including industries, labour types and household subgroups.

8.153. Table 8.22 shows part of the information contained in a fully-fledged SAM. It looks at total net value added, i.e. cell (3,2) of the aggregate table 8.20, through a magnifying glass. To facilitate cross-reference with the supply and use table, industries are only classified by NACE Rev. 1 sections. Male and female labour incomes are broken down by category of occupation and place of residence of the employed person. Net operating surplus is shown according to the (sub)sector of the enterprise to which the establishment belongs, and net mixed income according to the location of the household enterprise. In this example, mixed income still includes an imputed remuneration for the labour of the self-employed. Obviously, the figures in this table add up to the concomitant totals shown in tables 8.20 and 8.21. For instance, total net value added appears in the bottom right-hand corner.

8.154. The additional insights which can be obtained from such a table include the following:

- (a) the share of female labour income by industry and region;
- (b) the degree of concentration of female labour income in a certain occupational category, by industry and region;

Changes to legislation: There are outstanding changes not yet made to Council Regulation (EC) No 2223/96. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) View outstanding changes

- (c) the composition of labour income by occupation in each industry and region, for both sexes;
- (d) the regional split of mixed income by industry;
- (e) the weight of public enterprise and foreign-controlled corporations in the operating surplus of each industry.

8.155. In this table, the detailed information on compensation of employees comes from labour statistics; its integration into a national accounts framework will improve the relevance as well as the reliability of both this source and the national accounts.

Labour incomes as presented in this table can be decomposed into a volume and a price component by labour type and industry: full-time equivalent employment and (weighted, full-time equivalent) wage rates, respectively. Apart from that, a fully-fledged SAM also contains a table showing the allocation of these labour incomes and the concomitant employment to household groups. Similar transactions might be shown for imputed labour income of the self-employed.

A data set which contains an estimate of imputed labour income of the self-employed person units as well as a split of all labour income into a volume and a price component yields detailed labour data which are quite useful for all kinds of analysis and which are directly linked to all important macro-economic aggregates, including employment (that is, the total number of employed person units) and full-time equivalent employment (that is, total labour input volume).

TABLE 8.20 — SCHEMATIC PRESENTATION OF A SOCIAL ACCOUNTING MATRIX

ACCOUNT	0. TOTAL ECONOMY										REST OF THE WORLD	TOTAL
	Goods and services (products)	II.1.1 (industries)	II.1 (primary input categories)	II.2 (intermediate consumption)	II.4 (final consumption)	Capital formation (industries)	Gross fixed capital formation (industries)	III.2 (financial assets)	Current capital formation	Capital formation		
	I = 1	II = 2	III = 3	IV = 3a	V = 3b	VI = 4	VII = 5	VI = 5	VI = 5	VI = 5	VI = 5	XI = 14/15 16/17
0. Goods and services (product)	I = 1	Trade and transport margins	Intermediate consumption			Final consumption	Change in inventories	Gross fixed capital formation			Exports of goods and services	
		0	1 904			1 371	38	376			536	4 225
TOTAL ECONOMY (industries)	II = 2	Output										3 595

a Including acquisitions less disposals of valuables.

b Including acquisitions less disposals of non-financial assets.

Changes to legislation: There are outstanding changes not yet made to Council Regulation (EC) No 2223/96. Any changes that have already been made to the legislation appear in the content and are referenced with annotations. (See end of Document for details) View outstanding changes

II.1.1 III = 3a	Generation of income (primary input categories)		NET VALUE ADDED (BASIC PRICES)						Compensation of employees from the rest of the world	
			1 469						6	1 475
II.1.2 IV = 3b	Allocation of primary income (institutional sectors)	taxes less subsidies on products	GENERAL INCOME NET (BASIC PRICES)	PROPERTY INCOME					Property income and taxes less subsidies on production from the rest of the world	
			133	1 473	341					66
ROW II.2 V = 4	Secondary distribution of income (institutional sectors)			NATIONAL INCOME NET	Current transfers				Current transfers from the rest of the world	
						1 633	1 096			
II.4 VI = 5	Use of disposable income (institutional sectors)				DISPOSABLE INCOME NET	Adjustment for the change in net equity of households on			Adjustment for the change in net equity of households on	

a Including acquisitions less disposals of valuables.

b Including acquisitions less disposals of non-financial assets.

Changes to legislation:

There are outstanding changes not yet made to Council Regulation (EC) No 2223/96. Any changes that have already been made to the legislation appear in the content and are referenced with annotations.

[View outstanding changes](#)

Changes and effects yet to be applied to :

- Regulation revoked by [S.I. 2021/1300 Sch. 1 para. 13](#)