ANNEX A

EUROPEAN SYSTEM OF ACCOUNTS
ESA 1995

CHAPTER 8

SEQUENCE OF ACCOUNTS AND BALANCING ITEMS

MATRIX PRESENTATION

8.100. Previous parts of this chapter have presented a sequence of (T-)accounts. At the same time, the concepts and definitions of the system allow other methods of presentation. These serve to provide additional insights and to enable different types of analysis.

8.101. The input-output table is a widely used matrix framework to supply detailed and coherently arranged information on the flow of goods and services and on the structure of production costs. This matrix contains more information than (T-)accounts for goods and services, production and the generation of income; for example, final consumption expenditure is shown by product group or industry of origin and intermediate consumption is shown both by product group or industry of origin and by product group or industry of destination. Disaggregated linkages between these accounts are further developed in the ESA's supply and use tables, through a specification of output of product groups by industry.

8.102. The rest of this section will demonstrate, first, that the full sequence of accounts and balancing items can also be presented in a matrix format. In this table, all transactions are presented for the total economy and for the rest of the world, respectively. In addition, an aggregate goods and services account is included.

8.103. Next, the general purposes that can be served by an accounting matrix will be discussed. A crucial feature is the wide range of possibilities for expanding or condensing such a matrix in accordance with specific circumstances and needs. Finally, it will be illustrated how this works out in practice. In particular, the linkages between the supply and use tables and the sectoral accounts will be elaborated through the insertion of labour accounts, to arrive at a Social Accounting Matrix (SAM) framework. A SAM serves, among other things, to enable a more integrated analysis of economic and social policy issues, including unemployment.

MATRIX PRESENTATION OF ESA ACCOUNTS

8.104. Table 8.19 presents the full sequence of accounts and balancing items in a matrix. For this purpose, the accounts for the primary distribution of income, for use of income and for other changes in assets have not been subdivided. Besides, the option is left open whether or not to combine the account for the redistribution of income in kind with the secondary distribution of income. Finally, an account that records net worth has been inserted.

8.105. The figures which are presented in the tables of this section correspond exactly to the numerical example worked out in the preceding part of this chapter. In all matrices, the boxes containing a balancing item have been framed with bold lines.

8.106. A matrix presentation permits each transaction to be represented by a single entry and the nature of the transaction to be inferred from its position. Each account is represented by a row and column pair and the convention is followed that resources are shown in the rows and uses are shown in the columns. For instance, net domestic

product (1602) is payable by the economy's producers and received on the primary distribution of income account. Table 8.19 shows this in cell (3,2), that is, in row 3 and column 2. Since this table distinguishes transactions with the rest of the world in a separate account, its diagonal items, that is cells (3,3), (4,4), (5,5), (6,6), (7,7) and (8,8), contain only transactions among resident institutional units.

8.107. The row and column totals have not been named. Their main function in matrix accounting is to ensure that all accounts indeed represent complete balances, in the sense that total incomings (row sums) equal total outgoings (column sums). In turn, meaningful balancing items, which connect successive accounts, can only be derived if this condition is fulfilled.

8.108. Row 1 shows the uses of goods and services, at purchaser's prices: intermediate consumption (1904) in column 2, final consumption (1371) in column 5, gross capital formation (414) in column 7 and exports (536) in column 14.

8.109. The elements in row 1 add up to total use of goods and services, at purchaser's prices (4225). Column 1 presents the supply of goods and services (also totalling 4225, of course). Output (at basic prices) plus taxes less subsidies on products (3728) is shown at the intersection with row 2. Imports (497) originate from the external account of goods and services (row 14).

8.110. Row 2 shows output (at basic prices) plus taxes less subsidies on products. Because of this valuation, the sum of row 2 (3728), and the concomitant sum of column 2, are inclusive of taxes less subsidies on products. This ensures that these taxes are incorporated in the balancing item of account 2, net domestic product (NDP), see cell (3,2). Most balancing items can be calculated gross or net. In this matrix, all balancing items are shown net. Consumption of fixed capital (222) is put directly on the capital subaccount for the acquisition of non-financial assets (row 7 and column 2).

8.111. Row 3 shows the receipts of primary income by the total economy: net domestic product in cell (3,2), property income from other resident sectors (341) on the diagonal, and primary income flows from the rest of the world (72) in cell (3,15). As this matrix does not subdivide the account for primary distribution of income, it does not break down value added payable by producers into various categories of value added, as recorded in the generation of income account.

8.112. Apart from the diagonal item, column 3 contains primary income payable to the rest of the world (41) in cell (15,3) and the balancing item, net national income (1633), that connects this account and the next one.

8.113. This matrix leaves open the option whether or not to combine the account for the redistribution of income in kind with the secondary distribution of income. If redistribution of income in kind is not shown, then the diagonal contains current transfers, excluding social transfers in kind, between resident sectors (1096). These transfers consist of current taxes on income, wealth, etc., social contributions and benefits other than social transfers in kind, and other current transfers. If redistribution of income in kind is incorporated, then the diagonal of account 4 also records social transfers in kind; aggregated with the other current transfer flows, this equals 1315. In both cases, row 4 opens with net national income, while current transfers from the rest of the world (10) are recorded in cell (4,15). Column 4 shows, in addition to the diagonal item, current transfers to the rest of the world (39), in cell (15,4), while the balancing item, (adjusted) net disposable income (1604), is put on the use of (adjusted) disposable income account.

8.114. If redistribution of income in kind is incorporated, then account 5 is the use of adjusted disposable income account. Otherwise, this account is the use of disposable income account. At the aggregate level, this is only a matter of terminology, for total disposable income equals total adjusted disposable income and total final consumption expenditure equals total actual final consumption. Apart from disposable income, the row of this account records an adjustment for changes in net equity of households on resident pension funds (11) on the diagonal and an adjustment for changes in net equity of households on non-resident pension funds (0) in column 15. The column contains, in addition to final consumption (1371) and the diagonal item, an adjustment for changes in net equity of non-resident households on resident pension funds (0), see cell (15,5), and the balancing item, net saving (233), which is put on the first capital subaccount (account 6).

8.115. For the capital account, two subaccounts have been distinguished. First, in the row of the account for change in net worth due to saving and capital transfers, net saving is augmented with capital transfers receivable from resident sectors (61), see cell (6,6), and from abroad (1), see cell (6,16).

In the column of this account, capital transfers payable are shown, to resident sectors and to abroad (4), see cell (16,6). This yields a balancing item, change in net worth due to saving and capital transfers (230), that is transferred to the changes in balance sheet account (account 11).

8.116. Next, the row of the account for acquisition of non-financial assets presents consumption of fixed capital (cell 7,2), the acquisitions less disposals of non-produced non-financial assets by resident units (0), see cell (7,7), and by non-resident units (0), see cell (7,17) and the changes in assets due to saving and capital transfers (833), see cell (7,12). This yields the total sum that is available to residents for the acquisition of assets. That acquisition is shown in two stages: first the acquisition of non-financial assets, in the column of this account, and then the acquisition of financial assets (including external financial assets), in the column of the next account. The column of this account, account 7, thus contains gross capital formation (cell 1,7), the diagonal item (7,7) discussed above, the changes in liabilities due to saving and capital transfers (603), see cell (12,7), and a balancing item, net lending of the total economy (38), that is put on the next account, for financial transactions.

8.117. Account 8, the financial account, opens with net lending of the total economy (cell 8,7) and adds financial transactions between resident sectors (553) on the diagonal and also the net incurrence of external liabilities (50), see cell (8,18). The column contains the diagonal item and the net acquisition of external financial assets (88) in cell (18,8). Of course, the net incurrence of external liabilities plus net lending of the total economy equals the net acquisition of external financial assets, so that in this account too the balance between row and column totals is maintained.

8.118. The account for other changes in assets, account 9, records in the row the changes in assets due to other changes (379), see cell (9,12), and in the column the changes in liabilities due to other changes (74), see cell (12,9), and the balancing item, changes in net worth due to other changes (305), see cell (11,9).

8.119. The last four accounts for the total economy refer to the balance sheets and the changes therein. First, the opening balance sheet gives in the row the opening stock of assets (16714), see cell (10,12), and in the column the opening stock of liabilities (6298), see cell (12,10), and the opening net worth (10416), see cell (13,10). Next, the account for changes in balance sheet records both components of these changes in the row, see cells (11,6) and (11,9), and the total changes in net worth (535) in the column,

see cell (13,11). Then, the closing balance sheet presents in the row the opening stock of liabilities (cell 12,10), both components of changes in liabilities (cells 12,7 and 12,9), and the closing net worth (10951), see cell (12,13). Of course, the sum of these elements equals the closing stock of assets, which is also computed in the column of this account: the opening stock of assets (cell 10,12) plus both components of changes in assets, see cells (7,12) and (9,12). Finally, the extra account for net worth gives opening net worth (cell 13,10) and total changes in net worth (cell 13,11) in the row and closing net worth in the column (cell 12,13).

8.120. For the rest of the world, the same accounts have been included as for the total economy, albeit in a slightly more aggregate form. First, the external account of goods and services presents in the row imports by the total economy (cell 14,1) and in the column exports (cell 1,14) and the balancing item (cell 15,14), the external balance of goods and services (- 39). Note that all balancing items of accounts for the rest of the world are viewed from the perspective of the rest of the world. In order to obtain the relevant aggregates for the total economy, the sign must therefore be reversed.

8.121. Secondly, the external account of primary incomes and current transfers records the balancing item of the previous account, and also primary income, current transfers and adjustment for the change in net equity of households on pension funds, to and from the rest of the world, respectively. These items have already been discussed above. All this yields the current external balance (- 41), shown in cell (16,15).

8.122. Thirdly, the capital account for the rest of the world has also been split into two sub-accounts: one for the current external balance, capital transfers to and from the rest of the world and the balancing item, changes in the net external financial position due to the current external balance and capital transfers (- 38), see cell (21,16); another one for changes in assets due to the current external balance and capital transfers (50), see cell (17,22), acquisitions less disposals of non-produced non-financial assets by non-resident units, see cell (7,17), changes in liabilities due to the current external balance and capital transfers (88), see cell (22,17), and the balancing item net lending of the rest of the world (- 38), transferred to the next account.

8.123. Fourthly, the financial account gives the net acquisition of external financial assets (cell 18,8) and net lending of the rest of the world (cell 18,17) in the row, and the net incurrence of external liabilities (cell 8,18) in the column. Fifthly, the account for other changes in assets presents in the row such changes of assets (7), see cell (19,22), and in the column such changes of liabilities (3), see cell (22,19), and also the balancing item, changes in the net external financial position due to other changes (4), see cell (21,19).

8.124. Finally, the balance sheets for the rest of the world are analogous to those for the total economy. Elements not yet mentioned above are: the opening stock of external assets (573), see cell (20,22), the opening stock of external liabilities (297), see cell (22,20), the opening net external financial position of the rest of the world vis-à-vis the total economy (276), see cell (23,20), total changes in the net external financial position of the rest of the world (- 34), see cell (23,21), and the closing financial position of the rest of the world vis-à-vis the total economy (242), see cell (22,23).

8.125. As a next step, this reduced format matrix can be disaggregated to show the full sequence of accounts, including details for transactors and transaction categories. However, the full potential of matrix accounting can be realized if not all accounts are detailed in the same way, but instead for each account the most relevant classification is selected. This feature is dealt with at greater length in the next subsection.

PROPERTIES OF ACCOUNTING MATRICES

8.126. Each entry in an aggregate matrix such as table 8.19 can be considered as the grand total of a submatrix in which categories of transactors involved at either end of the set of transactions under consideration are presented. A very useful option in a matrix presentation of accounts is that different types of transactors and groupings thereof can be selected in each account, without giving up the coherence and the integration of the complete accounting system. This means that one may apply 'multiple actoring and multiple sectoring', by choosing in each account a unit and a classification of units which are most relevant to the set of economic flows under consideration.

8.127. In principle, each account can be broken down in two rather different ways: by subdividing the total economy into groups of units, or by assigning the categories of transactions shown in an account to various sub-accounts. For instance, a subdivision of the total economy in the first five accounts could run as follows:

(a) distinguish products in the goods and services account and classify these by product groups;

(b) distinguish local kind-of-activity units in the production account and classify these by industries;

(c) distinguish institutional units in the accounts for the primary and secondary distribution of income and for the use of income and classify these by institutional (sub)sectors.

8.128. these subdivisions have two major consequences. First, for all categories of transactions distinguished in a single cell of these accounts it becomes clear which group of paying units has exchanged what with which group of receiving units. Secondly, the interrelations among various economic flows are revealed through detailed cross-classifications. For instance, in the example given in the previous paragraph, a simple circular flow of income is presented, at a meso-level, through the following mappings:

(a) sub-matrix (3,2) shows which institutional subsector receives primary income and disposable income from which institutional subsector (naturally, in the distribution of income accounts and in the use of income account different classifications can be applied, and then these sub-matrices are no longer diagonal);

(b) sub-matrices (4,3) and (5,4) show which institutional subsector receives primary income and disposable income from which institutional subsector (naturally, in the distribution of income accounts and in the use of income account different classifications can be applied, and then these sub-matrices are no longer diagonal);

(c) sub-matrix (1,5) shows which product group is consumed by which institutional subsectors; and

(d) sub-matrix (2,1) shows which industry makes which product groups.

8.129. When compiling such a matrix, it is convenient to start by designing an accounting structure which is relevant to the applications envisaged. Subsequently, in each account the most appropriate units and classifications of units are selected. However, in practice it will be an interactive process. Suppose, for instance, that there is a transaction category for which only total receipts and payments of transactors (the row and column totals of a sub-matrix) are known, and not who paid whom (the interior structure of the sub-matrix). This problem can be solved by the insertion of an undivided, dummy account.

8.130. Among the general properties of a matrix presentation of accounts are the following:

(a) a detailed matrix presentation is suitable for mathematical treatment using matrix algebra; this can also be of help when balancing the accounts;

(b) a detailed matrix presents a simultaneous breakdown of interrelated transactions by paying and receiving units; as a consequence, it is an appropriate format to reveal, at a meso-level, interrelations among economic flows; this includes those flows which involve two different types of units (e. g. final consumption expenditure on various categories of goods and services by a number of household subsectors);

(c) for a set of accounts giving a breakdown of transactions by paying and receiving units, a matrix presentation is more concise than other methods of presentation; the payment by one unit and the receipt by another unit involved in each transaction are represented by a single entry.

8.131. An aggregate matrix for the total economy can serve as a reference table for subsequent, more detailed tables. As soon as the reader is then introduced to a detailed presentation of parts of the system (supply and use tables, sector accounts, etc.), the relation of the detailed submatrices to the aggregate matrix should be clear through a system of codes. The matrix format is particularly advantageous if it is not possible or desirable to show an equally detailed classification in all accounts of the system.

8.132. The matrix presentation is a suitable tool for exploring the flexibility of the system. For instance, one may further elaborate on the interrelations between the social and economic aspects of the system to arrive at a Social Accounting Matrix. The SAM approach is set out and illustrated in the next subsection of this chapter.

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

TABLE 8.19 — MATRIX PRESENTATION OF THE FULL SEQUENCE OF ACCOUNTS AND BALANCING ITEMS FOR THE TOTAL ECONOMY

Account	**0. Goods and services**	**I. TOTAL ECONOMY**													**V. REST OF THE WORLD**										**Total**
		1. Production	**2. Gross domestic product**	**3. Primary distribution of income**	**4. Secondary distribution of income**	**5. Use of income (in income in kind)**	**6. Adjustment for change in net equity of households in pension funds reserves**	**7. Gross capital formation**	**8. Acquisition less disposals of non-financial assets**	**9. Net lending (+) / net borrowing (-)**	**10. Changes in liabilities and net worth**	**11. Changes in balance sheet**	**12. Opening balance sheet**	**13. Closing balance sheet**	**14. Exports of goods and services**	**15. Primary income and property income**	**16. Current transfers**	**17. Capital transfers**	**18. Acquisition less disposals of non-financial assets**	**19. Changes in liabilities and net worth**	**20. Changes in balance sheet**	**21. Opening balance sheet**	**22. Closing balance sheet**	**23. Closing balance sheet**	
	1																								
0. Goods and services		Trade and transport margins					Final consumption		Gross capital formation						Exports of goods and services										
		0	1 904				1 371		414						536										4 225
TOTAL ECONOMY	**2**	Output at basic prices																							
		Taxes less subsidies on products																							
		3 728																							3 728
II. Primary distribution of income	**13**		Net domestic product	Property income												Primary income from the rest of									

																the world								
		1 602	341													72								2 015
II.2/3. Secondary (re)distribution of income (in kind)			Nat inc net	Cur trans (1 315)												Current transfers from the rest of the world								
			1 633	1 309	6											10								2 739
II.4/5 Use of (adjusted) disposable income				(Adjusted) disposable income, net		Adjustment for the change in net equity of households on pension funds										Adjustment for the change in net equity of households on pension funds from the rest of the world								
				1 604	11											0								1 615
III.6.1. Saving and capital transfers					Saving, net	Capital transfers										Capital transfers from the rest of the world								
					2336	1										1								295
III.7.2. Acquisition of non-financial assets		Consumption of fixed capital				Acquisitions less disposals of non-				Changes in assets due to						Acquisitions less disposals of non-								

								produced non-financial assets					saving and capital transfers					produced non-financial assets							
			222					0					833					0							1 055
III.8. Financial								Net lending of the total economy	Net acquisitions of financial assets (= net incurrence of liabilities)										Net incurrence of external liabilities						
								38	553										50						641
III.9. Other changes in assets													Changes in assets due to other changes												
													379												379
IV.10 Opening balance sheet													Opening stock of assets												
													16 714												16 714
IV.11 Changes in balance sheet							Change in net worth due to saving and capital transfers			Change in net worth due to other changes															
							230			305															535
IV.12 Closing balance sheet								Changes in liabilities due to saving		Changes in liabilities due to	Opening stock of liabilities			Closing net worth											

										and capital transfers		other changes																	
										603		74	6 298			10 951													17 926
	Net worth												Opening net worth		Change in net worth, total														
													10 416		535															10 951
RES OF THE WORLD	**V.1.14 External goods and services**	Imports of goods and services																											
		497																											497
	V.2.15 External primary incomes and current transfers			Primary income to the rest of the world	Current transfers to the rest of the world	Adjustment for the change in net equity of households on pension funds to the rest of the world									External balance of goods and services														
				41	39	0									- 39														41
	V.3.16 Saving and capital transfers						Capital transfers to the rest of the world									Current external balance													
							4									41													- 37

V.3.1 2. Acquisition of non-financial assets	**17**																						Changes in external assets due to current external balance and capital transfers		
																							50		50
V.3.2 Financial	**18**								Net acquisition of external financial assets									Net lending of the rest of the world							
									88									- 38							50
V.3.3 Other changes in assets	**19**																						Changes in external assets due to other changes		
																							7		7
V.4.1 Opening balance sheet	**20**																						Opening stock of external assets		
																							573		573
V.4.2 Changes in balance sheet	**21**																Change in net external financial position due to current external balance			Change in net external financial position due to other changes					

																		and capital transfers								
																		- 38			4					- 34
	V.43 Closing balance sheet	**22**																	Changes in external liabilities due to current external balance and capital transfers		Changes in external liabilities due to other changes	Opening stock of external liabilities			Closing net external financial position	
																			88		3	297			242	630
	Net worth	**23**																				Opening net external financial position	Change in net external financial position, total			
																						276	- 34			242
	Total		4 225	3 572	2 801	2 573	1 961	295	51 055	645	137	916 714	535	17 926	10 951	497	41	– 37	50	50	7	573	– 34	630	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:

(a) 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;

(b) subdividing the primary distribution of income account and the second capital sub-account; and

(c) 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 person (employee). In this SAM, employed persons are considered as separate units who receive compensation of employees in the generation of income account aand 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 colum 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 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;

(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. Goods and**	**TOTAL ECONOMY**	**REST OF THE WORLD**	**TOTAL**

a Including acquisitions less disposals of valuables.

b Including acquisitions less disposals of non-financial assets.

			services (products)	I. Products (industries)	II.1.1 Generation of income (primary input categories)	II.1 Allocation of primary income (institutional sectors)	II.2 Secondary distribution of income (institutional sectors)	II.4 Use of disposable income (institutional sectors)	Capital (institutional sectors)	Gross fixed capital formation (industries)	III.2 Financial assets	Current	Capital	
			I = 1	II = 2	III = 3a	IV = 3b	V = 4	VI = 5	VII = 6/7a	VIII = 7b	IX = 8	X = 14/15	XI = 16/17	
0. Goods and services(product)		**I = 1**	Trade and transport margins	Intermediate consumption				Final consumption	Changes in inventories	Gross fixed capital formation		Exports of goods and services		
			0	1 904				1 371	38	376		536		4 225
TOTAL ECONOMY	**I. Production (industries)**	**II = 2**	Output											
			3 595											3 595
	II.1.1 Generation of income (primary input categories)	**III = 3a**		NET VALUE ADDED (BASIC PRICES)								Compensation of employees from the rest of the world		
				1 469								6		1 475
	II.1.2 Allocation of primary income (institutional sectors)	**IV = 3b**	Taxes less subsidies on products		GENERATED 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		2 013

a Including acquisitions less disposals of valuables.

b Including acquisitions less disposals of non-financial assets.

ROW	**II.2 Secondary distribution of income (institutional sectors)**	**V = 4**			NATIONAL INCOME, NET	Current taxes,				Current transfers from the rest of the world		
					1 633	1 096				10		2 739
	II.4 Use of disposable income (institutional sectors)	**VI = 5**				DISPOSABLE INCOME, NET	Adjustment for the change in net equity of households on pension funds			Adjustment for the change in net equity of households on pension funds from the rest of the world		
						1 604	11			0		1 615
	Capital (institutional sectors)	**VII = 6/7a**					SAVING, NET	Capital transfers[b]	Net incurrence of liabilities		Capital transfers from the rest of the world[b]	
							233	61	603		1	898
	Gross fixed capital formation (industries)	**VIII = 7b**	Consumption of fixed capital					Net fixed capital formation				
			222					154				376
	III.2 Financial	**IX = 8**						Net acquisitions			NET LENDING	

a Including acquisitions less disposals of valuables.

b Including acquisitions less disposals of non-financial assets.

	(financial assets)							of financial assets				OF THE REST OF THE WORLD	
								641				- 38	603
ROW	**Current account**	**XI = 14/15**	Imports of goods and services		Compensation of employees to the rest of the world	Property income and taxes less subsidies on production to the rest of the world	Current transfers to the rest of the world	Adjustment for the change in net equity of households on pension funds to the rest of the world					
			497		2	39	39	0					577
	Capital account	**XI = 16/17**							Capital transfers to the rest of the world			CURRENT EXTERNAL BALANCE	
								4			- 41		- 37
TOTAL			4 225	3 595	1 475	2 013	2 739	1 615	898	376	603	577	– 37	

a Including acquisitions less disposals of valuables.

b Including acquisitions less disposals of non-financial assets.

TABLE 8.21 — EXAMPLE OF A MORE DETAILED SOCIAL ACCOUNTING MATRIX

ACCOUNT	**0. Goods and services**	**TOTAL ECONOMY**											**ROW**	**TOTAL**
		I. Production (products)	**II.1.1. Generation of income (industries)**	**II.1. Allocation of primary income (primary**	**II.2. Secondary distribution of**	**II.4. Use of disposable**	**Capital sectors)**	**(Gross fixed capital formation**	**II.2. Financial assets)**	**Capital (industries)**			**Capital (financial**

			input categories)	income (institutional sectors) (institutional sectors) (institutional sectors)	XI
			Ia Ib Ic IIa IIb IIc IIIa IIIb IIIc IIId IIIe IIIf IIIg IVa IVb IVc Va Vb Vc Vd …	VIa VIb VIc VId … IX X	XI
0. Goods and services (products)	**Agriculture, forestry and fishery products (0)**	Ia	3 7 11 4	16 12 2 1 2 7	128
	Ores and minerals, electricity, manufacturing and construction (1-5)	Ib	36 96 246	332 69 3 2 4 28 3 9 10 233 4 35	2685
	Services (6-9)	Ic	2 76 -7 8 20 349	20 85 12 33 57 23 9 4	1412
TOTAL ECONOMY	**I. Production (industries)** Agriculture, forestry and fishing (A-B)	IIa	87 2		89
	Mining, manufacturing, electricity and construction (C-F)	IIb	2 11 112		2 123
	Services (G-P)	IIc	39 1 344		1 383
II. Generation of employment income (primary input categories)	**Compensation of employees** / Domestic / male	IIIa	8 3 11 53		472
	Resident female		1 9 51 92		288
	Non-residents	IIIc	1 1		2
	Residents abroad	IIId		6	6
	Other taxes less subsidies on production	IIIe	-2 4 9 1 1		58

	Operating surplus, net	IIIf				1164142																																				217
	Mixed income, net	IIIg				14261256																																				432
II.1.2. Allocation of primary income (institutional sectors)	**Households, employees**	IVa							452278 6						16			1511																						778
	Households, other	IVb							2010					60416				5224																				32		614
	Corporations and NPISHs	IVc												141 3			281741																					27		384
	General government	IVd	2 1120										5816					23																				7		237
II.2. Secondary distribution of income(institutional sectors)	**Households, employees**	Va														771						56197																		1 024
	Households, other	Vb															577					2392																		692
	Corporations and NPISHs	Vc																94		58591612																		4		243
	General government	Vd																	193120334792																			6		780
II.4. Use of disposable income (institutional sectors)	**Households, employees**	VIa																		646						2														648
	Households, other	VIb																			499					9														508
	Corporations and NPISHs	VIc																				107																		107
	General government	VId																					352																	352
Capital (institutional sectors)	**Households, employees**	VIIa																						85													1			86
	Households, other	VIIb																							75					167						284				130
	Corporations and NPISHs	VIIc																								83			4	4	25				13905175					516
	General government	VIId																									-10		4						2	9474			1	166
Gross fixed capital formation(industries)	**Agriculture, hunting, forestry and fishing (A-B)**	VIIIa				11																																		11

											Total
	Mining, manufacturing, electricity and construction (C-F)	**VIIIb**	92			4	36				132
	Services (G-P)	**VIIIc**	119		1	14	92	7			233
III.2 Financial assets	**Currency and deposits**	**IXa (financial deps)**			56	12	44	7		13	132
	Loans	**IXb**			5	194	45			-27	217
	Other financial assets	**IXc**			268210628					-24	254
ROW	**Current**	**X**	37	345	15	2	4	9	26	4 35	577
	Capital	**XI**				4				-41	- 37
TOTAL			1 228	1 684	8 512	92	1 123	4 383	7288 6 582 147 327 7813 482 431 7 024 6 924 7 8604 5080 3 7582 6 1 35 1 6 6 6 1 1 3 2 3 1 3 3 2 1 2 7 5 5 4 7 -7	37

TABLE 8.22 — EXAMPLE OF A DETAILED SUBMATRIX: NET VALUE ADDED (BASIC PRICES)

(Table 8.20, cell 3,2)						[F1 INDUSTRIES (by NACE rev. 1 sections)]																Total
						Agriculture, hunting and forestry	Fishing	Mining and quarrying	Manufacturing	Electricity, gas and water supply	Construction	Wholesale and retail trade, repair of motor vehicles households goods	Hotels and restaurants	Transport, storage and communication	Financial intermediation	Real estate, renting and business services	Public administration and defence compulsory social security	Education	Health and social work	Other community, social, personal services	Financial intermediation services indirectly measured	
						IIa1	IIa2	IIb1	IIb2	IIb3	IIb4	IIc1	IIc2	IIc3	IIc4	IIc5	IIc6	IIc7	IIc8	IIc9	IIc10	II
Compensation of employees	**DOMESTIC**	**Resident male**	**Agricultural**	**Rural**	**IIIa1**	6,2	0,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,0	0,0	0,0		6,8
				Urban	**IIIa2**	0,2	0,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,0	0,0	0,0		0,5
			Manual	**Rural**	**IIIa3**	0,2	0,0	3,2	21,1	10,6	12,4	1,9	0,1	2,8	0,6	0,1	0,2	0,8	0,2	1,8		46,0
				Urban	**IIIa4**	0,0	0,0	1,8	105,3	9,8	27,4	4,0	0,4	7,9	1,5	0,4	0,9	1,0	0,8	4,7		165,9
			Clerical, sales, service	**Rural**	**IIIa5**	0,2	0,0	0,5	5,9	0,0	0,9	3,0	0,2	0,5	3,7	0,6	1,5	0,6	0,0	2,4		20,0
				Urban	**IIIa6**	0,0	0,1	1,5	35,6	2,1	3,7	6,6	0,5	1,8	6,9	3,0	5,8	0,6	0,4	7,3		75,9
			Professional, managerial, etc.	**Rural**	**IIIa7**	0,1	0,0	1,7	17,7	0,2	2,6	0,7	0,2	0,3	1,8	1,3	2,7	14,0	1,0	1,8		46,1
				Urban	**IIIa8**	0,0	0,0	2,5	47,7	2,7	4,4	1,3	0,4	1,0	5,6	5,9	10,6	20,1	14,1	4,7		111,0

Resident female	**Agricultural**	**Rural**	**IIIb1**	1,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		1,1
		Urban	**IIIb2**	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		0,0
	Manual	**Rural**	**IIIb3**	0,0	0,0	0,0	5,7	0,0	0,0	0,1	0,1	0,0	0,1	0,0	0,1	0,4	0,2	0,8		7,5
		Urban	**IIIb4**	0,0	0,0	0,0	13,6	0,0	0,1	0,2	0,2	0,1	0,3	0,2	0,3	0,4	0,8	2,6		18,8
	Clerical, sales, service	**Rural**	**IIIb5**	0,0	0,0	0,4	5,6	0,1	1,3	6,2	0,6	0,4	1,6	0,8	1,8	4,3	0,6	24,2		47,8
		Urban	**IIIb6**	0,0	0,0	1,2	49,6	2,9	4,6	14,3	2,5	1,0	8,8	4,7	9,0	4,9	2,0	36,6		142,1
	Professional, managerial, etc.	**Rural**	**IIIb7**	0,0	0,0	0,0	1,3	0,0	0,1	0,2	0,0	0,0	1,0	0,3	0,9	9,3	2,4	5,5		21,0
		Urban	**IIIb8**	0,0	0,0	0,1	7,3	0,1	0,3	0,3	0,1	0,0	3,6	1,1	4,8	10,6	9,8	11,2		49,3
Non-resident employees			**IIIc**	0,1	0,1	0,1	0,9	0,0	0,2	0,2	0,0	0,1	0,0	0,0	0,3	0,0	0,0	0,0		2,0
Residents in non-resident enterprises			**IIId**																	
Other taxes less subsidies on production			**IIIe**	2,0	0,0	- 2,0	41,1	4,9	5,0	0,0	0,0	- 6,0	8,3	3,7	1,0	0,0	0,0	4,0		58,0
Operating surplus, net	**Households (owner-occupied housing)**		**IIIf1**											60,0						60,0
	NPISHd and government unincorporated enterprises		**IIIf2**	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	21,0		21,0
	Corporations	**Public**	**IIIf3**	0,1	0,0	2,7	8,0	9,0	1,1	- 12,0	1,1	3,6	1,5	1,0		0,0	6,2	10,1	- 5,0	26,3
		National private	**IIIf4**	10,7	0,2	0,4	13,0	0,1	21,9	6,0	2,7	7,1	14,8	49,0		0,0	1,3	11,5	- 35,1	103,7
		Foreign	**IIIf5**	0,0	0,0	1,4	6,0	0,0	0,4	0,5	0,3	1,8	2,2	1,5		0,0	0,0	0,0	- 8,0	6,1
Mixed income, net	**Rural**		**IIIg1**	12,3	1,4	0,0	65,4	0,0	9,4	10,7	0,5	0,5	3,0	32,9	0,0	0,0	3,4	2,1		141,6
	Urban		**IIIg2**	8,2	0,2	0,0	161,6	0,0	25,6	20,4	4,3	2,5	2,0	61,1	0,0	0,0	7,6	4,9		290,4
Subtotals:																				
Compensation of employees (paid by resident production)				8,0	1,0	13,0	317,3	8,5	58,0	39,0	5,3	15,9	35,5	18,4	39,1	67,0	22,3	103,6		761,8
— Resident male			**IIIa**	6,9	0,8	11,1	233,3	5,4	51,4	17,5	1,8	14,3	20,1	11,3	21,9	37,1	6,5	22,7		472,2
— Resident female			**IIIb**	1,0	0,1	1,7	83,1	3,0	6,4	21,3	3,5	1,5	15,4	7,1	16,9	29,9	15,8	80,9		287,6
— Non-resident			**IIIc**	0,1	0,1	0,1	0,9	0,0	0,2	0,2	0,0	0,1	0,0	0,0	0,3	0,0	0,0	0,0		2,0

Mixed income and operating surplus		23,2	1,8	4,5	254,9	0,1	58,4	25,5	8,0	15,5	23,5	205,5	5,0	0,0	18,5	49,6	- 48,6	49,1
— Operating surplus, net	**IIIf**	10,8	0,2	4,5	27,0	9,1	23,4	- 5,6	3,1	12,5	18,5	111,5	5,0	0,0	7,5	42,6	- 48,2	17,1
— Mixed income, net	**IIIg**	12,4	1,6	0,0	227,0	0,0	35,0	31,1	4,9	3,0	5,0	94,0	0,0	0,0	11,0	7,0		432,0
Total net value added	**III**	29,2	2,8	15,5	612,3	42,5	121,6	44,5	13,3	25,4	67,3	227,4	60,1	67,0	40,8	157,2	48,1	468,9

Textual Amendments

F1 Substituted by Commission Regulation (EU) No 715/2010 of 10 August 2010 amending Council Regulation (EC) No 2223/96 as regards adaptations following the revision of the statistical classification of economic activities NACE Revision 2 and the statistical classification of products by activity (CPA) in national accounts.

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