

On SAMs According to ESA95

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Introduction

The increasing integration of economic and social policies in Europe, and across the world, requires increased integration of economic and social statistics. The Handbook on Social Accounting Matrices and Labour Accounts has been written to help the Statistics Offices of EU member states (and, indeed, any other country) to meet this requirement.

It is generally acknowledged that human capital is in Europe the most critical factor for the generation of social welfare. Yet, traditional National Accounts do not distinguish between low-skilled and high-skilled labour, or any other type of labour. This serious shortcoming is remedied in Social Accounting Matrices (SAMs), which also have various other features that augment to their usefulness. SAMs use the very powerful (matrix) framework of national accounts, by integrating into a single (matrix) format supply and use tables or an input-output table and institutional sector accounts. In general, social statistics lack a framework that ensures consistency across a range of statistics from different sources. SAMs provide this, ensuring consistency not just between social statistics in the matrix, but also between these social statistics and national accounts. The focus on households and employment categories means a greater emphasis on the role of people in the economy.

The Handbook on Social Accounting Matrices and Labour Accounts concentrates on labour statistics and their links with national accounts. This can be seen as one of the most important sets of relationships that concern policy makers today. Studying a labour-oriented SAM enables policy makers better to understand relationships between output, labour (and therefore productivity), households, income, and expenditure at very detailed levels.

The manual explains how SAMs can be derived from an expansion of national accounts matrices (NAMs), what data are needed, and what methodologies can be applied, for example, to ensure consistency and coherence in the system. It is a document designed for both users and producers. For users, it explains what SAMs can do to answer policy and research questions. For producers, it provides background to explain how SAMs can be compiled. It is written entirely in conformance with the world (SNA) and European (ESA) systems of accounts.

Background

Preparation and publication of the Handbook on Social Accounting Matrices and Labour Accounts is one of the responses to the 1999 ECOFIN Council document on the statistical requirements for the implementation of Stage 3 of Economic and Monetary Union (EMU). This saw “effective surveillance and co-operation of economic policies”

as of “major importance”. It requires “a comprehensive information system providing policy makers with the necessary data on which to base their decisions”. ECOFIN commended the national accounts because they are “based on harmonised concepts”, and they “provide both mutually consistent aggregate indicators and a detailed statistical information system”. It emphasised the need to develop more comprehensive and comparable indicators and accounts for labour, and to ensure their consistency with national accounts. This is what Social Accounting Matrices (SAMs) do.

A SAM is basically a matrix that incorporates a combination of:

- the national accounts (showing, in addition, for all transactions who pays what to whom; cf. flow-of-funds matrices), and
- detailed labour accounts (both earnings, employment and average wage rate) by industry, by type of labour (male/female, skill level, etc.), and by household subsector.

Because of its matrix format, the SAM also elaborates the national accounts’ information on income and expenditure distributions. For instance, a SAM presents expenditure patterns by product group and by household subsector, and commonly also breaks down investment, by sector of origin and industry of destination, and as well by industry of destination and by product group. The SAM is, however, a flexible format that can be adjusted to the policy priorities at hand, and to the basic statistics and other resources that are available. It is an analytical information system with which for example the interrelations between conventional EMU objectives (e.g. growth and government deficits) and labour market developments can be monitored and analysed.

The EU Statistical Programme Committee (SPC) approved the Leadership Group on Social Accounting Matrices (LEG SAM) during its 33rd session on 25 May 1999 (document CPS 99/33/14). The LEG SAM is a partnership in the framework of the European Statistical System, approved by the SPC.

The objectives of the LEG SAM were threefold:

1. Designing a methodology for the compilation of SAMs and a set of standard classifications to be used. These items will be described in a handbook on SAMs.
2. Exploring the possibilities for compiling SAMs in all (participating) European countries, using existing data sources. Although there are other subjects that can be described in detail in a SAM (e.g. income (re-)distribution and consumption patterns), this SAM will focus on labour market information;
3. Compiling a pilot-SAM for each of the participating countries for the year 1997 if possible. In addition, some information on the compilation of a “European SAM” or some comparative analysis of the pilot-SAMs and Labour accounts will be produced.

The SAM LEG started in October 1999. In addition to Eurostat, the statistical offices of the following countries participate in this LEG: Belgium, Finland, Greece, Italy, Netherlands, Norway, Portugal, and United Kingdom. From each country two representatives attend the meetings: one labour statistics expert and one expert on national accounts. The Netherlands had the co-ordinating responsibility of the SAM LEG.

Procedure

Meetings have taken place in Lisbon (20-10-1999), London (7/8-3-2000), Brussels (15/16-6-2000), Luxembourg (9/10-10-2000), Athens (26/27-3-2001), Helsinki (14/15-6-2001) and Rome (12/13-11-2001).

The Draft Handbook of Social Accounting Matrices and Labour Accounts has been presented and discussed during a Workshop in Voorburg at Statistics Netherlands on 17/18 June 2002. At this meeting 55 people representing 22 countries have actively participated in the discussions. After the Workshop, an additional LEG meeting has been organised to co-ordinate the work to be done with regard to the final version of the handbook. In November 2002, the Draft Handbook has been presented before the National Accounts Working Group.

A Network group has been founded of several non-participating institutions who have expressed an interest in the ongoing work (ECB, ILO, UN, IMF, OECD, universities and NSI's). In total 64 persons have received the draft versions of the chapters of the handbook. Valuable comments have been received and incorporated in the text.

The final report of the LEG SAM consists of a manual on the compilation of SAMs and labour accounts and pilot matrices for seven participating countries. The final report was presented to the SPC by Statistics Netherlands during the 50th SPC in September 2003. The SPC expressed the following opinions:

- The SPC welcomed the work done by the LEG SAM and congratulated Statistics Netherlands for leading this group.
- Some delegates requested a position of Eurostat concerning the Community funding to be allocated for the development of this project. Eurostat confirmed that a commitment on this issue cannot be taken at present, given the increasing demand in social statistics. If some countries decide to develop SAMs, Eurostat is ready to act as a focal point.

The Handbook on SAMs and Labour Accounts is published as Eurostat Working Paper 3/2003/E/N 23 and is available on request at the Eurostat secretariat - Unit E3, Bech Building D2/727 – 5, rue Alphonse Weicker – L – 2721 Luxembourg, tel: (352) 4301-33293, fax: (352) 4301-35399, e-mail: Renata.Passarella@cec.eu.int.

The electronic version of the handbook is available at the web-site of the Employment Statistics Experts Working Group:

<http://forum.europe.eu.int/Members/irc/dsis/employ/home>.

Handbook on SAMs and Labour Accounts

A Social Accounting Matrix (SAM) elaborates the interrelationship between economic and social statistics by linking together the (mainly) macro-statistics of national accounts with the (mainly) micro- statistics of the labour market and of households. Both ESA95 (8.134) and SNA93 (20.4) in their definitions of SAMs, emphasise the linkages between supply and use tables and sector accounts, and their focus on the role of people in the economy. As examples, the two international guidelines refer to “extra breakdowns of households and disaggregated representations of labour markets”. With these links and extra breakdowns, it is possible for the analyst to investigate economic and social policy issues within an integrated framework.

The aim of the handbook is to provide member states of the European Union and, indeed, other countries, with sufficient information to enable them to understand what SAMs are, how they can be compiled, and how they can be used. The handbook takes ESA95 as its starting point, and is entirely consistent with it and with SNA93. Parts of the manual are extracts from ESA95 and SNA93.

Although this handbook is a general guidance on SAMs, it concentrates on a labour-oriented SAM, *i.e.* its main purpose is to describe a SAM that provides detailed information on the met demand for and used supply of labour in monetary terms.

The introductory chapter sets the scene by outlining the general principles and characteristics of accounting. It gives a brief overview of the different statistical systems (accounts, national accounts, and labour accounting systems) that need to be brought together in order to construct a SAM. The structure is as follows: it begins with a definition of SAMs, briefly describes their use, and the purpose of the handbook; a road map describes the content of each chapter of the handbook, and provides the reader with alternative routes through the handbook according to their interests and expertise; general principles of accounting – illustrates the advantages arising from constructing economic accounting systems by outlining some important principles and characteristics; overview of national accounts – provides a very brief introduction to the system of national accounts; overview of labour accounts – provides a brief introduction to labour accounts, and the Labour accounting System of the International Labour Organisation (ILO), which provide a framework for integrated labour market statistics; and classifications – describes the units and the classification of units that are used within the individual accounts to show who paid what to whom.

National Accounts Matrices - NAMs

Next is described how national accounts can be expressed in matrix format. The advantages and limitations of this alternative presentation are assessed. Then the aggregate National Accounts Matrix (NAM) is introduced followed by the eleven individual accounts that together make up the NAM. After explaining how NAMs can be used to show the circular flow of income the detailed NAM is presented with descriptions of the detailed component accounts (the level of detail of this NAM gives the basic framework for SAMs). Some methods for compiling a number of specific cells in these accounts are outlined.

The way to produce the different sub-matrices is explained and demonstrated all over the handbook, with the help of detailed examples. These numerical examples are based on figures in the ESA95 manual. Examples on the methods used to breakdown the NAM figures are also given.

Elaboration of a Social Accounting Matrix - SAM

A SAM is built within the detailed NAM framework, with each control total of the national accounts matrix being expanded into a sub-matrix whose rows and columns use more detailed breakdowns of transactors and transactions. The expansions provide a coherent set of sub-matrices. The expansions focus on the role of people in the economy. For example, the household sector may be broken down into categories of households to show a detailed presentation of the labour market. Alternatively, households may be grouped by size or according to the education attainment of the head of the household. It is possible to apply several different classifications to the same group of transactors. For example, households may be grouped by income class in the allocation of primary

income account, and by main source of income in the use of income account. The choice of the classification depends on the analytical purposes of the proposed SAM.

One of the main purposes of the SAM presented in the manual is to provide detailed information on the (met) *demand and supply of labour* in monetary terms, where this labour is employed in the production system. This is called a labour-oriented SAM.

The *demand for labour* is linked to the value added sub-matrix, and to the sub-matrix showing the compensation of employees paid by the rest of the world. The transition to the detailed NAM transforms the value added cell of the aggregate NAM into a sub-matrix where columns correspond to industries and rows to components of value added. The labour-oriented SAM focuses on the value added categories that remunerate labour, *i.e.* on compensation of employees and on mixed income. Compensation of employees is broken down according to demographic, social or economic characteristics of employees. Mixed income may be analysed by characteristics of the self-employed. The expansion of these sub-matrices shows the amount of money paid by industries to the categories of labour used (*demanded*) in the production process.

The *supply of labour* in monetary terms is shown by the generated income sub-matrix and by the sub-matrix that records the compensation of employees paid to non-resident workers. The SAM requires an expansion of compensation of employees by both the characteristics of employees, and by the group of households to which the workers belong. The sub-matrices generated by these disaggregations show the amount of money received by each household group for having *supplied* different kinds of labour in the production process.

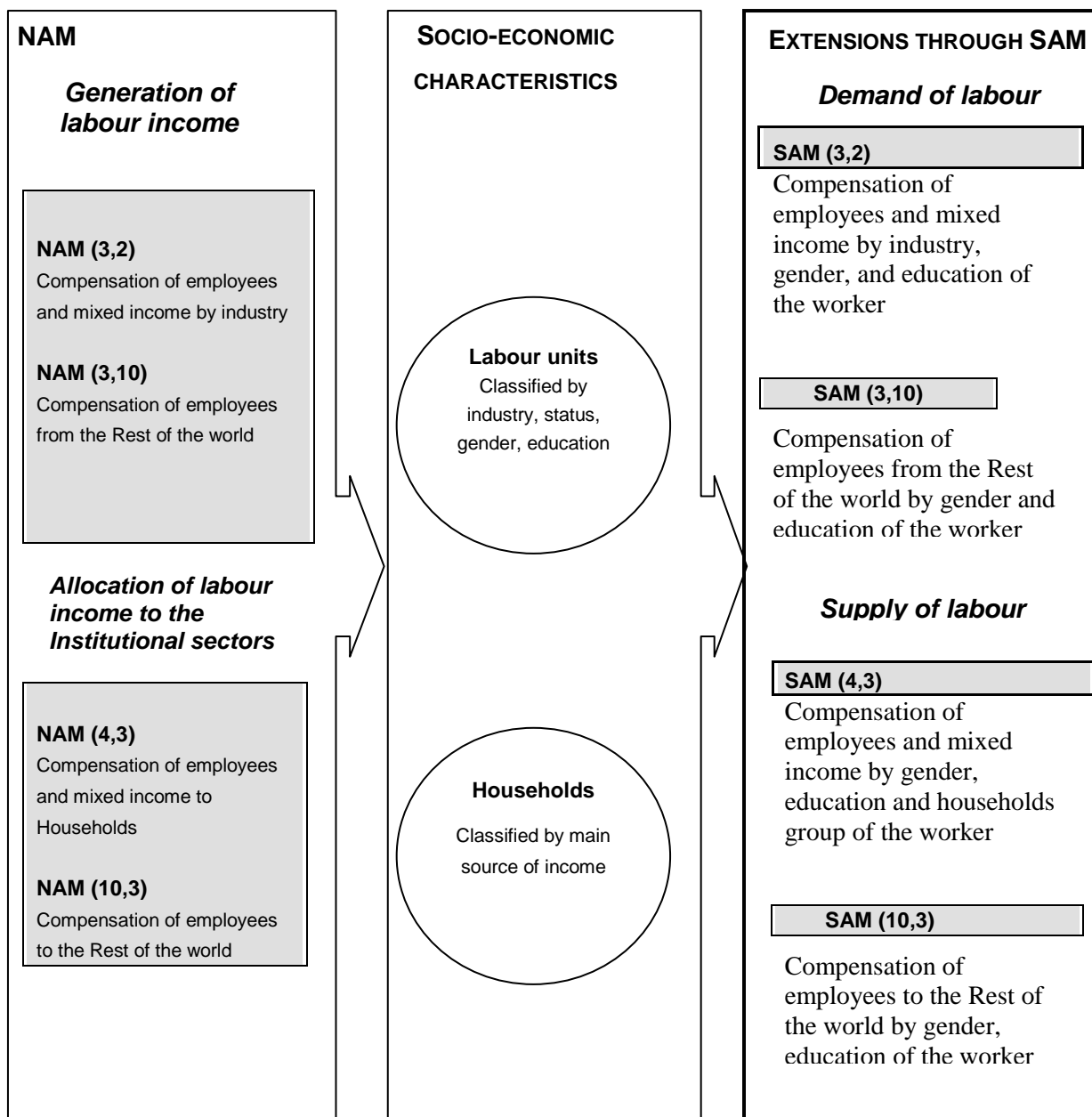
The detailed NAM serves as a conceptual reference matrix, and, at the same time, provides numerical constraints. The following figure synthesises the transition from the NAM sub-matrices to the detailed tables of the SAM where the demand and supply of labour in monetary terms are described. The key element is the introduction of social and demographic characteristics into the NAM sub-matrices.

The division of households into sub-groups affects all the sub-matrices of the detailed NAM where households are included as a sector. Particularly relevant are the sub-matrices that describe the allocation of primary income, the secondary distribution of income, and the derived balancing items. The sub-matrices generated by the division of households into sub-groups are described in detail. The distribution of property income and the secondary distribution process are brought into focus.

An important part of the SAM, especially when it comes to analysing welfare issues, is final consumption expenditure for different household types. The final consumption expenditure sub-matrix of the SAM analyses national consumption not only by groups of products but also by groups of households.

Theoretical concepts with numerical examples based on figures in the ESA95 manual are supported in the handbook. Examples on the methods used to breakdown the NAM figures are also given. In most countries, data are not always available for a full breakdown of the flows from and to the rest of the world, especially when the flows are negligible. This is particularly evident for the secondary distribution of income flows. The elaboration of SAMs requires a considerable use of concepts and definitions of labour.

Transition from the NAM sub-matrices to the SAM tables

**Labour Accounting System**

Economic and social statistics meet in the area of labour statistics. Expanding sub-matrices in the NAM with socio-economic variables introduces variables and characteristics which, for most countries, have to be gathered from a variety of sources. The handbook focuses (in a separate chapter) on the labour market. It describes the possibilities and advantages of integrating labour market statistics in a labour accounting

system (LAS), and in a socio-demographic oriented NAM - the SAM. SAMs and labour accounts partly overlap. This is where supply of and demand for labour meet. The monetary part of the overlap has been described in the chapter that deals with the elaboration of a SAM, and the non-monetary (or labour volume) part is described in the chapter about the LAS.

Most developed countries have been collecting labour market data since the beginning of the 20th century. Population and establishment censuses, household and enterprise surveys on the labour force, hours of work, earnings and labour costs, as well as registers of population, taxes and social security provide data for monitoring labour market development on a regular basis.

Despite the availability of a large amount of statistical information, researchers, statisticians and politicians encounter major problems in obtaining a complete picture of the labour market. According to Buhmann *et al.* (2000)¹ these difficulties are due to:

- contradictory results between data sources
- incomplete coverage
- difficulties and limitations in describing labour market dynamics
- absence of links between labour market statistics and other social and economic statistics.

In the manual is described:

- how these problems affect labour market statistics in the EU;
- how they led to the development of a labour accounting system;
- the conceptual framework for LAS that was developed in the 1980s;
- how this framework is used in practice;
- the inter-connections between national accounts, SAMs and LAS;
- the compilation of the non-monetary part of these systems which complements the description of the monetary part in the chapter that deals with the elaboration of a SAM.

Compilation Procedures and Techniques

SAMs and labour accounts bring together a variety of data. These include the integrated estimates from national accounts, basic statistics from central registers and censuses, and results from household surveys (labour force survey, household budget survey etc.), and establishment surveys (structure of earnings survey, labour cost survey, etc.). They are brought together, in a consistent way, using statistical integration procedures. The handbook looks at the principles underlying these procedures.

The process of building a labour-oriented SAM usually involves the following steps:

1. identification and preparation of appropriate data sources. This may include *matching* of several micro-data files to obtain the set of variables of interest for each individual,

1. Buhmann, B., W.P. Leunis, L. Sjølling, A. Vuille, and K. Wismer, *Labour Accounts: A Step Forward to a Coherent and Timely Description of the Labour Market*, Paper presented at the Siena Group Meeting on Social Statistics, Maastricht, May 22-24, 2000.

and the complex task of *harmonising* the variables with the national accounts concepts;

2. combination of data sets to enable decomposition of the traditional national accounts figures into more detailed socio-economic variables (e.g. gender and level of education). *Calibration* techniques for micro-data are often useful to reduce the impact of sampling variation and non-response bias etc. in surveys; and
3. *error detection* and *regularisation* or *balancing*. Inconsistencies between estimates obtained by aggregation of micro-data and the national accounts figures may still be present after step 1 and 2. For example, identity relations may not hold. These inconsistencies should be investigated to discover errors in the data etc., and corrections made. Regularisation or balancing techniques can then be used to obtain strict numerical consistency in the macro-data. (This process can also provide feedback to survey statisticians (and national accountants) to improve estimates from surveys or registers (or in national accounts)).

To integrate different sources, top-down or bottom-up approaches can be used. The manual describes these approaches, discusses the advantages of combining the two approaches, gives examples of the adjustments needed to combine the various sources available in labour accounts and SAMs, and describes some specific techniques that can be used in the integration process.

Applications of Social Accounting Matrices

The area covered by SAMs is the link between two often distinct worlds of statistics: economic statistics and social statistics. The integration of these fields of statistics enables a wider range of policy issues to be monitored and analysed. Even linking labour market and income distribution issues to macro-economic policy objectives such as economic growth, low inflation, and government fiscal balance becomes a real possibility. Labour markets are covered only sketchily in national accounts. The lack of information, for example, on labour and pay by educational level and by gender is a serious omission. A SAM-framework increases the opportunities for a more complete analysis, either directly by inclusion of a breakdown by labour categories in the relevant accounts, or indirectly by presenting and quantifying the link with underlying micro and meso data.

Their usefulness to producers of statistics (compilers of basic statistics, and national accountants) is addressed in the handbook, which looks at the advantages of more integration of basic data. Their usefulness to users is addressed and SAMs as tools for policy analysis are discussed.

Although SAMs and labour accounts have been produced in a number of countries, their use in developed countries is still not widespread. One reason for this is that there is still no country where SAMs are being produced both regularly and speedily. Until recently, the timeliness of SAMs was not seen as a high priority, because there was greater emphasis on structural analysis.

The types of analyses that are possible with SAMs are presented in the manual. As an illustration, the SAM figures, for 1999, for the Netherlands are combined with similar figures for previous years. Another type of analysis is the comparison of the structure of the labour market in eight European countries. The figures for the countries participating in the LEG are used to make this comparison. A large part of SAM analysis uses modelling approaches, which are described in more detail.

Pilot-SAMs

One of the objectives of the LEG was the compilation of a pilot-SAM for each of the participating countries for the year 1997 if possible. Five countries have compiled a SAM for 1997, one for 1996 and one for 1995.

The classifications used in the pilot SAMs are the following:

Classification of labour

Labour is classified by gender, status in employment and educational attainment in the pilot SAMs. As a result, the following minimum of 12 types (2x2x3) of labour will be distinguished:

Gender

- Male
- Female

Status in employment

- Paid employment
- Self-employed

Level of education

- Primary or lower secondary education (ISCED '97 levels 1-2)
- Upper secondary or post secondary education (ISCED '97 levels 3-4)
- Post secondary education (ISCED '97 levels 5-6)

Classification of households

Households are classified by the main source of income of the household. As a minimum, the following four groups are distinguished (households with their main source of income from):

- Wages and salaries
- Mixed income (including property income)
- Income in connection with old age (retirement)
- Other transfer income

Classification of activities

For the pilot SAMs at least a subdivision in the following six NACE groups is:

- | | |
|--|-------|
| • Agriculture, hunting and forestry; Fishing | A/B |
| • Mining and quarrying; Manufacturing; Electricity, gas and water supply | C/D/E |
| • Construction | F |

- Wholesale and retail trade, repair of motor vehicles, motorcycles and Personal and household goods; Hotels and restaurants; Transport, storage and communication G/H/I
- Financial intermediation; Real estate, renting and business activities J/K
- Public administration and defence, compulsory social security; Education; Health and social work, Other community, social and personal services activities; Private households with employed persons L/M/N/O/P

In the annex of the handbook, each country (Belgium, Finland, Greece, Italy, Netherlands, Portugal, United Kingdom) describes the background of their pilot-SAM, the sources used for the compilation, the pilot-SAM itself and the perspectives for the future.

SAM-viewer

A SAM is usually presented through subsequent tables, as shown by the ESA95 examples. The more the detail of the matrix grows, the more the reading of the matrix is difficult (the matrix being necessarily printed on several pages). In order to overcome this problem, the LEG has developed an electronic presentation of the SAM, the *SAM-viewer*, working under Excel 97 and subsequent versions.

The SAM-viewer consists of the ESA95 SAM (based on the numerical example used in ESA95) and a set of linked files each showing one of the full-fledged pilot-SAMs compiled by the participating countries of the LEG. On the “home-page” of the ESA95 SAM there are buttons leading the user to one of the seven available pilot-SAMs (Belgium, Finland, Greece, Italy, Netherlands, Portugal, United Kingdom).

The “home page” of each pilot-SAM corresponds to the aggregate NAM/SAM of the concerned country. By clicking on a sub-matrix the user can reach a deeper level of detail. For some sub-matrices there are buttons at the user’s disposal to go even one or more levels deeper.

The screen views on the next pages show what the user can see on the screen by:

- clicking a country button (in screen view 1 the aggregate NAM/SAM of the Netherlands is shown).
- clicking on the sub-matrix (3,2) Net Value Added (screen view 2).
- clicking the button “To a more detailed Value Added matrix” (screen view 3).
- clicking the button “To the underlying labour matrix in fte” (screen view 4). Clicking the button “Back to the SAM” brings you back to the aggregate NAM/SAM (screen view 1).
- clicking on sub-matrix (4,3) Net Generated Income (screen view 5).
- clicking the button “To a more detailed Generated Income matrix” (screen view 6).
- clicking the button “To the underlying labour matrix in fte” (screen view 7). Clicking the button “Back to the SAM” brings you back to the aggregate NAM/SAM (screen view 1).

- clicking on the sub-matrix (1,6) “Final Consumption Expenditure” (screen view 8).
- clicking the button “To a more detailed Use of Income matrix” (screen view 9).

Screen views

1. The Aggregate Social Accounting Matrix of the Netherlands, 1997
2. Sub-matrix (3,2): Net value added
3. Sub-matrix (3,2): A detailed net value added matrix
4. Labour matrix underlying the value added matrix (in fte)
5. Sub-matrix (4,3): Net generated income
6. Sub-matrix (4,3): A detailed generated income matrix
7. Labour matrix underlying the generated income matrix (in fte)
8. Sub-matrix (1,6): Final consumption expenditure
9. Sub-matrix (1,6): A detailed final consumption expenditure matrix

Screen view 1
THE DUTCH SOCIAL ACCOUNTING MATRIX

BACK TO THE
REST OF THE
SAM

Account	1997 – current million euro –											
	1	2	3	4	5	6	7	8	9	10	11	12
	Goods and services	Production	Generation of income	Allocation of primary income	Secondary distribution of income	Use of income	Capital	Fixed capital formation	Financial	Row (current)	Row (capital)	Total
Codes												
Goods and services												
1	TRADE AND SERVICES	INTERMEDIATE CONSUMPTION				FINAL CONSUMPTION	CHANGES IN INVENTORIES (H)	GRANDFIXED FORMATION		EXPORTS OF GOODS AND SERVICES (G)		838 760
	0	320 674				241 415	839	71 680		204 152		
Production												
2	OUTPUT											
	619 059											
Generation of income												
3		NET VALUE ADDED	VALUE NOT HANDLED OVER TO THE GOVERNMENT									619 059
		248 550	614									
Allocation of primary income												
4	EMPLOYERS' PRODUCTS LESS SUBSIDIES		NET GENERATED INCOME	PROPERTY INCOME						PROPERTY INCOME FROM THE R.O.W.		249 749
	33 051		249 036	107 136						384		
Secondary distribution of income												
5				NET NATIONAL INCOME	CURRENT TRANSFERS					CURRENT TRANSFERS FROM THE REST		424 340
				287 625	-269 682					3 499		
Use of income												
6					NET FINANCIAL INCOME	DISPOSABLE PER EQUITY OR PENSION FUND						
					284 649	16 092						
Capital												
7						NET SAVING	CAPITAL TRANSFERS (D)					300 742
						43 379	7 790					
Fixed capital formation												
8		CONSUMPTION OF FIXED CAPITAL					NET FIXED CAPITAL FORMATION					238 976
		49 835					21 845					
Financial												
9							LEASING					71 680
							205 964					
Row (current)												
10	IMPORTS OF GOODS AND SERVICES (G)		COMPENSATIONS OF EMPLOYERS TO THE R.O.W.	PROPERTY INCOME TO THE R.O.W.	CURRENT TRANSFERS TO THE R.O.W.	ADMINISTRATIVE EXPENSES FOR EQUITY OR PENSION FUNDS TO R.O.W.						186 706
	186 650		98	29 579	6 475	-145						
Row (capital)												
11							CAPITAL TRANSFERS TO THE R.O.W.					222 657
							2 538					
Total												
		619 059	249 749	424 340	560 807	300 742	238 976	71 680	186 706	222 657	-18 157	

(1) Including acquisition less disposable of valuables
 (2) Including purchases in domestic market by non-residents
 (3) Including acquisitions less disposable of non-produced non-financial assets
 (4) Including purchases abroad by residents and taxes on products and imports paid to the Rest of the World

Screen view 2

Net value added SUB-MATRIX (3,2) NET VALUE ADDED

Generation of income (value added categories)	Production (NACE-rev. 1 Industries)								Total
	1	2	3	4	5	6	8		
	Agriculture, forestry, fishing (NACE A/B)	Mining, quarrying, manufacturing, electricity, gas and water supply (NACE C/D/E)	Construction (NACE F)	Trade, repair, hotels and restaurants, transport, storage and communication (NACE G/H/I)	Financial intermediation, real estate, renting and business activities (NACE J/K)	Public administration and defense, education, health and social work, services n.e.c. (NACE L/M/N/O/P)			
	codes								
Compensation of employees	1	32 795	11 662	37 891	33 770	49 954		168 035	
Net mixed income	2	942	1 937	7 287	5 512	6 241		27 766	
Net operating surplus	3	21 947	1 992	13 149	12 207	2 918		52 544	
Other taxes less subs. on pr.	4	-924	-55	208	867	-92		205	
Total	5	55 884	15 536	58 535	52 356	59 022		248 550	

Screen view 3

Net value added **SUB-MATRIX (3,2) A DETAILED VALUE ADDED MATRIX**

Generation of income (value added categories)		Production (NACE-rev. 1 Industries)							Total
		1	2	3	4	5	6	7	
		codes							
Wages and salaries	Male	715	8 199	4 168	8 642	3 206	2 751	27 682	
	Female	662	11 527	4 564	12 454	8 038	7 664	44 910	
		81	5 356	672	4 526	10 389	13 753	34 777	
		141	1 314	83	2 632	1 894	2 007	8 072	
		102	1 437	216	3 896	3 489	7 242	16 381	
		19	848	63	1 416	2 719	7 751	12 816	
Employers' social contributions		242	4 115	1 895	4 324	4 035	8 787	23 397	
Net mixed income		5 848	942	1 937	7 287	5 512	6 241	27 766	
Net operating surplus		332	21 947	1 992	13 149	12 207	2 918	52 544	
Other taxes less subsidies on production		-924	201	-55	208	867	-92	205	
Total		7 218	55 884	15 536	58 535	52 356	59 022	248 550	

Screen view 4

Total labour The Labour matrix underlying the value added matrix (in fte)
units

Type of labour		Economic activity (NACE-rev. 1 Industries)						Total	
		1 Agriculture, forestry, fishing (NACE A/B)	2 Mining, quarrying, manufacturing, electricity, gas and water supply (NACE C/D/E)	3 Construction (NACE F)	4 Trade, repair, hotels and restaurants, transport, storage and communication (NACE G/H/I)	5 Financial intermediation, real estate, renting and business activities (NACE J/K)	6 Public administration and defense, education health and social work, services n.e.c (NACE L/M/N/O/P)		
codes		1	2	3	4	5	6	7	
Employees	Male	Primary/lower secondary (ISCED 1-2)	34	297	169	316	138	100	1 052
		Upper or post secondary (ISCED 3-4)	29	367	174	425	259	255	1 508
	Female	Tertiary (ISCED 5-6)	3	130	21	114	243	367	878
		Primary/lower secondary (ISCED 1-2)	10	70	5	164	110	104	462
		Upper or post secondary (ISCED 3-4)	7	69	11	218	174	351	829
Self-employed	Male	Tertiary (ISCED 5-6)	1	31	3	57	99	281	471
		Primary/lower secondary (ISCED 1-2)	63	16	26	59	16	11	190
		Upper or post secondary (ISCED 3-4)	67	16	30	81	35	24	254
	Female	Tertiary (ISCED 5-6)	7	5	4	18	40	35	109
		Primary/lower secondary (ISCED 1-2)	13	4	1	24	7	64	113
		Upper or post secondary (ISCED 3-4)	9	4	2	25	8	47	96
Total	Tertiary (ISCED 5-6)	1	1	0	5	6	16	30	
		242	1 009	445	1 505	1 136	1 655	5 992	

Screen view 5

Net generated **SUB-MATRIX (4,3) NET GENERATED INCOME**
income

249 036	Allocation of primary income (Institutional sectors)	codes	Generation of income (value added categories)				Total
			Compensation of employees	Net mixed income	Net operating surplus	Other taxes less subsidies on production	
	Non-financial corporations	1		2	3	4	5
	Financial corporations	2			50 630		50 630
	General government	3			-3 156		-3 156
	Households	4	167 958	27 766	5 685	153	201 409
	Non-profit inst. serving hh	5					0
	Total	6	167 958	27 766	53 159	153	249 036

Screen view 8

National final expenditure

241 415 SUB-MATRIX (1,6) FINAL CONSUMPTION EXPENDITURE

National final expenditure	241 415	Goods and services (CPA groups)	codes	Use of income (Institutional sectors)					Total
				Non-financial corporations	Financial corporations	General government	Households	Non-profit institutions serving households	
				1	2	3	4	5	6
		Products of agriculture, hunting, forestry, fisheries and aquaculture (CPA A/B)	1				3 870		3 870
		Products from mining and quarrying, manufactured products and energy products (CPA C/D/E)	2			2 497	79 102		81 598
		Construction work (CPA F)	3			468	354		822
		Wholesale and retail trade services; repair services, hotel and restaurant services, transport and communication services (CPA G/H/I)	4			710	18 653		19 362
		Financial intermediation services, real estate, renting and business services (CPA J/K)	5			4 489	36 537		41 025
		Other services (CPA L to P)	6			68 256	24 668	1 813	94 737
		Total	7			76 420	163 183	1 813	241 415

Screen view 9

National final SUB-MATRIX (1.6) A DETAILED FINAL CONSUMPTION MATRIX expenditure

241 415	Goods and services (CPA groups)	codes	Use of income (Institutional sectors)									Total
			Non-financial corporations	Financial corporations	General government	Wages and salaries	Households and mixed income (including property income)	Income in connection with old age (retirement)	Other transfers income (including other households)	Non-profit institutions serving households		
			1	2	3	4	5	6	7	8	9	
	Products of agriculture, hunting, forestry, fisheries and aquaculture (CPA A/B)	1				2 388	329	859	293		3 870	
	Products from mining and quarrying, manufactured products and energy products (CPA C/D/E)	2									81 598	
	Construction work (CPA F)	3			2 497	50 577	6 882	14 466	7 176		822	
	Wholesale and retail trade services; repair services, hotel and restaurant services, transport and communication services (CPA G/H/I)	4			468	249	27	65	13		19 362	
	Financial intermediation services, real estate, renting and business services (CPA J/K)	5			710	11 695	1 529	3 583	1 846		41 025	
	Other services (CPA L to P)	6			4 489	21 206	3 554	7 224	4 552		94 737	
	Total	7			76 420	101 814	15 065	30 852	15 452	1 813	241 415	

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