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AN HISTORICAL SOCIAL ACCOUNTING MATRIX FOR THE NETHERLANDS (1938)

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This article presents an historical Social Accounting Matrix (1938) for the Netherlands, including related, non-monetary tables on demographic characteristics, employment, etc.

1. INTRODUCTION

Several years ago, Statistics Netherlands embarked on a project concerning the compilation of long, consistent time-series of national accounts. As part of this project, the national accounting data for the years 1921–39 have been revised and elaborated. In the first instance, this involved a revision of macro-economic variables (den Bakker, Huitker and van Bochove, 1990). However, it was gradually realized that macro-figures provide only part of the picture, if only because the crisis of the 1930s did not affect all industries and all population groups to the same extent. For an in-depth analysis of the economic situation in those years, several dispersed sources of data are available. Each of these sources focus on a certain aspect of the economy: inter-industry relations, labour force, household consumption, balance of payments, unemployment, etc.

Combining such isolated sources into a general framework increases both their relevance and their reliability. Only an integrated set of data at a meso-level allows for a formal analysis of inter-relations among various economic processes. Moreover, when compiling such a set, various types of consistency checks can be built in, so that the quality of the underlying sources is screened and improved. This principle is well-known in the case of production-oriented analyses, which often utilize input-output tables for this purpose. However, it could be extended to analyses which take a broader view and incorporate issues like income distribution and unemployment. This requires the compilation of a so-called Social Accounting Matrix (SAM). Concerning the interwar-period in the Netherlands, we have been able to compile a SAM for 1938.

2. AN HISTORICAL SOCIAL ACCOUNTING MATRIX FOR THE NETHERLANDS (1938)

2.1. *A Social Accounting Matrix for Historical Economic Analysis*

In terms of national data availability, the interwar period is often characterized by the presence of various isolated sources. Some of these may contain

Note: The views expressed in this paper are those of the authors and do not necessarily reflect the views of Statistics Netherlands. For an extended version of this article, including a comparison with the 1987 distribution of income and outlay, see den Bakker, de Gijt and Keuning (1992).

fairly detailed figures. These statistics have typically not yet been integrated into a common consistency framework. Therefore, it is not surprising that at present the compilation of national accounts for the interwar years is not undertaken in many countries. Usually, relatively much information is available, only for a few of these years, e.g. from a population census or a household budget survey. In this case, one may work with benchmark years for which rather detailed accounts are constructed. The macro-figures for these years also tend to be more reliable. Time-series data for aggregate variables can then be scaled such that the values for the benchmark year(s) agree with the concomitant figures in the extended benchmark data set. This paper concerns the construction and analysis of such an integrated benchmark data set at a meso-level.

A SAM is particularly expedient if one wants to study (un)employment in relation to issues like productivity, inflation, external balance and income distribution; it reconciles, at a meso-level, labour force statistics and conventional national accounts.[1]

2.2. *An Aggregated SAM*

Table 1 presents the aggregated version of the 1938 SAM. The format is practically the same as in the 1993 SNA (Tabel 20.4) or Keuning (1994), which contain a detailed explanation of each cell. This SAM serves as a summary table to which more detailed tables will refer and provides an overall view of the Dutch economy in 1938. It presents the interrelations among main transaction categories and also contains the most important macro-economic aggregates, such as national income and the current external balance.

2.3. *Classifications in a More Detailed SAM*

The definition of classifications is a very important phase in the construction of a SAM (Keuning and de Ruijter, 1988). In compiling an historical SAM, the availability of data played a very important role in the choice of classifications. For instance, the household classification was largely determined by the 1935/36 Budget Survey data. The classification of goods and services in the supply and use tables was based on the information available in both production statistics and accident statistics. In the production account the classification has been harmonized with the one used in the present Dutch national accounts, the so-called Netherlands Standard Establishment Classification (SBI) 1974.

The generation of income account contains four value added categories: compensation of employees for breadwinners and non-breadwinners, net operating surplus/mixed income and fixed capital consumption. The distinction of two categories of labour income introduces a typical SAM-aspect in this accounting system. In the accounts for the allocation of primary income, the secondary distribution of income and the use of income, nine (sub)sectors have been distinguished: seven household subgroups, corporations and government.

[1]More information on SAMs can be found in e.g., the Social Accounting Matrix chapter in the 1993 System of National Accounts (SNA) (United Nations, 1993, chapter XX), Pyatt and Round (1985), Alarcón, van Heemst, Keuning, de Ruijter and Vos (1991) and Keuning (1994).

TABLE 1

AN AGGREGATED SOCIAL ACCOUNTING MATRIX FOR THE NETHERLANDS, 1938 (MLN GUILDERS)

Account (Classification)	codes	0. Goods & Services (Products)	I. Production (Industries)	II.1.1 Generation of Income (Value-added Categories)	II.1.2 Allocation of Primary Income (Institutional Sectors)	II.2 Secondary Distribution of Income (Institutional Sectors)	II.4 Use of Income (Institutional Sectors)	III.1 Capital	Fixed Capital Formation (Industries)	V. Rest of the World I./II Current	V. Rest of the World III.1 Capital	Total
		1	2	3	4	5	6	7	8	10	11	
Goods & Services (Products)	1	Trade and Transport Margins 0	Intermediate Consumption 4,201				Final Consumption Expenditure 4,856	Changes in Inventories −180	Gross Fixed Capital Formation 981	Exports 1,558		11,416
Production (Industries)	2	Output 9,239										9,239
Generation of Income (Value-added Categories)	3		GDP, at factor costs 5,038							Compensation of Employees from ROW 0		5,038
Allocation of Primary Income (Institutional Sectors)	4	Taxes on Products Subsidies 468		Net generated income, at factor costs 4,634	Property Income 1,052					Property Income from ROW 506		6,660
Secondary Distribution of Income (Institutional Sectors)	5				Net national income 5,459	Current Taxes and Transfers 1,332				Current Transfers from ROW 2		6,793
Use of Income (Institutional Sectors)	6					Net disposable income 5,461						5,461
Capital	7			Fixed Capital Consumption 404			Net saving 605				Capital Transfers from ROW 55	1,064
Fixed Capital Formation (Industries)	8							Gross Fixed Cap. formation 981				981
Financial Balance	9							Net Lending of the Nation 255			Net lending to Row −255	0
Rest of the World: Current	10	Imports 1,709		Employees compensation to ROW 0	Property Income to ROW 149	Current Transfers to ROW 0						1,858
Rest of the World: Capital	11							Capital Transfers to ROW 8		Current External Deficit −208		−200
Total		11,416	9,239	5,038	6,660	6,793	5,461	1,064	981	1,858	−200	

For lack of data on capital transfers, the capital account has not been disaggregated. On the account for fixed capital formation six industries are shown. The financial balance account functions as a dummy account (cf. the 1993 SNA, paragraphs XX.20–22) and such accounts are not subdivided. For the rest of the world, separate current and capital accounts have been included.

The classification of households plays a crucial role. Conclusions regarding income inequality and consumption patterns are based on household averages, and thus depend very much on how the population has been subdivided. For 1938, the households have been classified according to the occupation and employment status of the breadwinner: (1) agricultural labourer, (2) farmer, (3) blue collar worker, (4) white collar worker, and (5) self-employed outside agriculture. In addition, households with unemployed breadwinners and "other" households (e.g. pensioners, rentiers) have been distinguished. A subdivision of employees into civil servants and private sector employees was abandoned because both their socio-economic position and their consumption patterns appeared very similar. The same holds for a distinction between urban and rural households. In this sense, the final classification has been determined by both data availability and analytic usefulness.

A detailed (85 × 84) SAM for 1938 is presented as an annex.

3. An Analysis of Standards of Living by Household Category

3.1. *Number and Composition of Household*

In 1938, the Netherlands had a population of over 8.5 million people, living in almost 2.2 million households. This implies an average household size of 4.0 persons. Table 2 presents a subdivision of the total number of households, the population, the labour force and (un)employment into seven household categories. It is referred to the Appendix for a description of the estimation method.

In more than half of the households a wage labourer (agricultural labourer, blue or white collar) was the breadwinner. The breadwinner was self-employed (agricultural or non-agricultural) in 26 percent of the households and unemployed in 14 percent of the households. Roughly 7 percent of the families principally depended on other transfer or property income. Concerning the industry of employment of the breadwinner, it is striking that only 16 percent of the households received their main income from agriculture.

Surprisingly, households with unemployed breadwinners were typically the largest: 4.9 persons on average. Farmers' and blue collar workers' households were commonly bigger than those of the self-employed outside agriculture and white collar workers. As expected, the smallest mean household size was found in the category "other" households. As a consequence of these differences in household size, almost 17.5 percent of the population lived in a household where the breadwinner was unemployed.

The total labour force consisted of almost 3.5 million persons, that is 40 percent of the population. The lowest labour force participation rate was found in the category "other" households and the highest in the categories self-employed and unemployed households. Particularly in farmers' households, unpaid family

TABLE 2.

NUMBER OF HOUSEHOLDS, POPULATION, LABOUR FORCE AND EMPLOYMENT BY HOUSEHOLD CATEGORY, 1938

	Agricultural Labours	Farmers	Blue Collar	White Collar	Self-employed	Unemployed	Other	Total
1 Number of households	127.8	226.7	791.8	225.4	344.8	310.9	145.0	2172.3
2 Average household size	3.9	4.2	4.2	3.8	3.6	4.9	2.0	4.0
3 (1 × 2) Population	504.7	960.0	3314.1	863.2	1246.7	1510.7	284.8	8684.1
4 Without occupation	316.1	517.5	1976.7	528.2	714.1	859.3	284.0	5196.0
5 (3-4) Labour force	188.5	442.5	1337.4	334.9	532.6	651.4	0.7	3488.1
6 Unemployment	11.7	37.1	83.4	16.4	17.7	369.4	0.1	535.8
7 (5-6) Employment	176.8	405.4	1254.0	318.6	514.9	282.0	0.6	2952.3
					%			
8 Labour force/population	37.4	46.1	40.4	38.8	42.7	43.1	0.3	40.2
9 Unemployment/population	2.3	3.9	2.5	1.9	1.4	24.5	0.0	6.2
10 Unemployment/labour force	6.2	8.4	6.2	4.9	3.3	56.7	16.1	15.4

workers were a common phenomenon. In the case of unemployed households, their meagre incomes may have played a role in the relatively high labour force participation of non-breadwinners.

In Table 2, unemployment refers to breadwinners as well as non-breadwinners. Of course, the former (311,000 persons) all belong to the unemployed households. The latter have been classified in the household they belonged to, irrespective of their occupation. For instance, 83,000 unemployed non-breadwinners lived in a blue collar household. All in all, 15 percent of the labour force was unemployed and 69 percent of them were in the category unemployed breadwinners. The unemployment rate was lowest in the category of the self-employed outside agriculture (3 percent) and highest, of course, in the category of the unemployed (57 percent). Notice, however, that in the latter category not less than 43 percent of the labour force was working. Obviously, the work of the non-breadwinners provided a substantial source of income in this group.

3.2. *Distribution of Income and Outlay*

A summary of households' income and outlay is presented in Table 3, which is a slight rearrangement and extension of the relevant parts of the full SAM. The rearrangement of Table A1 entails that in Table 3 it is not shown from whom household categories receive their incomes and to whom they pay their outlays. The relation between this table and table A1 is indicated by the vector numbers in the row headings. The full SAM is extended here in two respects: first, net operating surplus/net mixed income is broken down into both components, whereby net operating surplus accruing to households is equal to the imputed rent of owner-occupied housing. In all other cases, profits of a household enterprise consist of a renumeration for both self-employed labour input and other primary inputs, so that the 1993 SNA speaks of "mixed income." The second extension refers to a subdivision of household transfers to companies into (a) pension and life insurance premiums and (b) employers' social contributions (re-routed from industries to compensation of employees to households' primary incomes to companies, in accordance with the SNA-conventions).

Mixed income almost completely accrues to farmers and the other self-employed. For the rest, only agricultural labourers had noticeable income from own production (food). Dividends, rents etc. were mainly received by the "other" households category, the self-employed households categories and the white collar workers. Unrequited current transfers from the rest of the world have been assumed to accrue entirely to the "other" households. On the expenditure side, "other" households do not pay transfers to companies.

At a macro-level, almost half of the resources consisted of compensation of employees. Mixed income and dividends, rents, etc. contributed 25 percent and 15 percent, respectively. More than 10 percent of the resources were unrequited transfers and about half of these transfers were social benefits. As expected, the household categories derived their incomes from quite diverging sources. Paid employees received their main income from compensation of employees. Yet, for the white collar workers, 14 percent of their resources came from dividends etc. The "other" households' income consisted for the greater part of pension benefits

TABLE 3

INCOME AND OUTLAY AS A PERCENTAGE OF TOTAL RESOURCES/USES BY HOUSEHOLD CATEGORY, 1938

Item (location in full SAM)	Agricultural Labourers	Farmers	Blue Collar	White Collar	Self-employed	Unemployed	Other	Total
				million guilders				
Total resources	137	578	1469	1011	1405	352	329	5281
				%				
Compensation of employees (4a/g, 3a+3b)	75.9	4.7	93.2	80.1	3.3	37.2	0.0	47.1
of which breadwinners (4a/g, 3a)	65.7		77.3	75.5				37.7
non-breadwinners (4a/g, 3b)	10.2	4.7	15.9	4.6	3.3	37.2	0.0	9.5
Mixed income, net (4a/g, 3c; partly)	8.0	62.3	0.0	0.0	66.2	0.0	0.0	24.6
Operating surplus, net (4a/g, 3c; partly)	8.8	4.8	3.2	1.9	2.3	4.0	0.6	2.9
Dividends, rents etc. (4a/g, 4h+4i+10)	0.0	28.0	0.0	13.6	24.6	2.3	38.6	14.8
Pension benefits etc. (5a/g, 5h)	0.0	0.0	1.4	4.3	3.1	2.8	57.8	5.8
Social benefits (5a/g, 5i)	7.3	0.2	2.1	0.1	0.5	53.7	2.4	4.7
Unrequited current transfers from the rest of the world (5a/g, 10)	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
Total resources	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Premiums pension & life insurance (5h, 5a/g)	2.2	1.0	2.7	6.6	5.5	3.4	0.0	3.9
Employers' social contributions (5h, 5a/g)	3.6	0.2	4.4	4.9	0.3	1.1	0.0	2.4
Current taxes (5i, 5a/g)	1.5	7.1	2.3	9.8	10.7	0.6	9.7	6.8
Consumption (1, 6a/g)	91.2	81.8	90.1	74.9	79.9	96.0	83.3	83.5
Saving, net (7, 6a/g)	1.5	9.9	0.5	3.8	3.6	−1.1	7.0	3.3
Total uses	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(58 percent) and dividends etc. (39 percent). More than half of the income of the unemployed households were social benefits. In addition, the wages earned by non-breadwinners were an important source of income for this category.

Naturally, consumption expenditure was the major outlay component: 83.5 percent on average and even 96 percent for the unemployed. For the household sector as a whole, only 3.3 percent of total (net) resources went to net saving. For the farmers this percentage was almost 10 percent, whereas the unemployed had negative saving.

3.3. *Composition of Final Consumption Expenditure*

This section decomposes private final consumption expenditure by type of goods and services and by household category. The classification of goods and services is, as far as possible, consistent with the one in the present national accounts (cf. den Bakker, de Gijt and Keuning, 1992). Table 4 shows the expenditure pattern in each household category. On average, 31.8 percent of the consumption budget went to food, 5.5 percent to tobacco and beverages, 16.5 percent to durables, 16.5 percent to dwelling services, 1.0 percent to consumption abroad and 28.8 percent to other goods and services.

The consumption pattern of the household groups differer considerably. In general, Engel's law seens to hold. The proportion of total consumption spent on food was substantially higher in low income households, such as agricultural labourers, than in high income households, such as the self-employed (53 percent vs. 19 percent). Somewhat surprisingly, this low income elasticity of demand seems to apply to all food sub-categories distinguished, except fish. Even the meat budget share is highest in agricultural labourers' households.

The purchase of less essential goods were more income elastic. For example, the share of beverages in total consumption was much lower for the unemployed (1.5 percent) than for the self-employed (3.7 percent). The same trend is visible in the category "other goods and services."

Nowadays, there is wide-spread opinion that every household should spend a roughly equal propertion of his income on housing. In 1938, this was more or less the case. The deviation from the average (11 percent) is rather small. As both agricultural subgroups spend relatively a bit less on housing, it might be inferred that the average rents were somewhat lower in rural areas. The share of both other categories of dwelling services is also worth noting. Concerning electricity, gas and water it was much lower for the agricultural than for the non-agricultural households. For the other dwelling services however, the share in agricultural households was higher than in the typically urban households, except the unemployed. These figures may reflect different sources of heating: relatively less gas and more fuel (part of "other dwelling services") was used in rural areas.

Notably, the relative expenditure on entertainment services was high in the categories self-employed outside agriculture (6.8 percent) and white collar workers (6.2 percent). In the other household categories, this percentage did not exceed 3.1 percent. The spending on hotels, cafés and restaurants was on average 3.4 percent, varying from 0.0 percent for the agricultural labourers to 6.2 percent for the "other" households. The budget share of health services was practically the

TABLE 4

TOTAL FINAL CONSUMPTION EXPENDITURE PER CAPITA AND EXPENDITURE SHARES BY HOUSEHOLD CATEGORY, 1938

	Agricultural Labourers	Farmers	Blue Collar	White Collar	Self-employed	Unemployed	Other	Total
				guilders per year				
Final consumption expenditure per capita	249	493	399	877	900	224	962	508
				%				
Food	53.2	35.3	39.7	23.3	19.5	46.1	34.4	31.8
Groceries	17.8	11.8	12.2	7.1	6.3	15.4	10.7	10.1
Dairy products	7.3	5.6	5.7	3.2	2.7	5.7	5.1	4.5
Bread and pastry	13.6	7.0	9.0	4.2	3.4	12.1	7.7	6.8
Potatoes, vegetables and fruit	6.6	3.8	5.2	3.8	3.5	6.3	4.6	4.5
Meat and meat products	7.2	6.2	6.9	3.9	2.9	6.1	5.9	5.2
Fish and fish preserves	0.8	0.8	0.8	1.1	0.7	0.6	0.4	0.8
Stimulants	4.0	6.3	5.7	5.4	5.5	4.7	5.5	5.5
Tobacco products	2.4	3.4	3.9	2.6	1.8	3.3	3.7	3.0
Beverages	1.6	3.0	1.8	2.8	3.7	1.5	1.8	2.6
Durable consumer goods	14.4	18.1	15.5	18.2	17.6	12.0	15.2	16.5
Textiles and clothing	6.4	11.0	8.2	9.9	9.0	5.6	8.1	8.7
Footwear and leatherware	4.0	1.9	2.3	1.7	1.7	2.4	1.8	2.0
Household articles, interior decorating	4.1	5.2	5.0	6.6	7.0	4.1	5.2	5.7
Durable consumer goods n.e.c.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dwelling services	14.1	13.1	18.1	15.6	16.6	17.3	16.4	16.5
Housing	9.6	9.1	12.5	10.8	11.0	11.5	11.3	11.2
Electricity, gas and water	1.6	1.9	3.7	3.4	4.0	3.3	3.7	3.4
Other dwelling services	2.9	2.1	1.9	1.3	1.6	2.5	1.4	1.8
Other goods and services	14.3	27.3	20.7	35.5	39.0	19.8	27.4	28.8
Expenditure in hotels, cafés, restaurants	0.0	4.2	3.1	4.1	3.1	2.1	6.2	3.4
Entertainment services	1.9	2.2	2.5	4.2	5.1	1.3	2.0	3.3
Transport and communication	2.2	3.3	1.7	4.9	5.6	1.6	2.0	3.4
Health services	3.4	3.2	3.1	3.3	3.3	5.4	3.1	3.4
Goods and services n.e.c.	6.8	14.3	10.2	19.0	21.9	9.4	14.1	15.2
Consumption expenditure abroad	0.0	0.0	0.4	2.0	1.7	0.0	1.1	1.0
Final consumption expenditure of households	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

same in all household groups, except in the unemployed category where this percentage was substantially higher.

4. Employment

In connection with the 1938 SAM, various non-monetary data have been compiled. Evidently, demographic data are needed to evaluate the socio-economic situation of household groups. However, another important objective of the construction of a SAM and related tables is to derive a whole range of macro-economic indicators from one integrated and consistent meso-level data set: a System of Economic and Social Accounting Matrices and Extensions (SESAME); refer to Keuning (1994). If, for instance, unemployment and an income distribution indicator can be related to GDP and the national current account balance, this increases both the relevance and the reliability of these aggregate figures. The underlying SAM-framework can then be used in the construction of all kinds of models that include feed-backs from non-monetary to monetary variables at the meso-level. Subsequently, similation experiments on the basis of such models would yield consistent values for the complete set of indicators.

An important non-monetary extension relates to tables on employment and unemployment which are consistent with the detailed labour income data as shown in the SAM proper. This implies that the labour income submatrices by labour type and industry on the one hand and by household group and labour type on the other hand are decomposed into a volume component (employment) and a price component (average wage rates). Subsequently, total employment by household group can be juxtaposed with the labour force to obtain insight into the size and allocation of unemployment.

In the 1938 SAM, two categories of labour have been distinguished: breadwinners and non-breadwinners. A breadwinner was defined as a married man or an unmarried person over a certain age (i.e. over 29 plus 20 percent of the age group 25–29). This cut-off served to arrive at a total number of breadwinners which is equal to the total number of households. All other persons were thus considered as non-breadwinners. In order to link these labour categories to the industries in which they worked, some simplifying assumptions had to be made: on the one hand, married children were supposed not to live with parents who also obtained an income, and on the other hand all unmarried children below the cut-off age were supposed to live at their parents' home. The non-breadwinners have been split into married women and unmarried children still living at home. A description of the estimation method is given in the appendix.

We have estimated detailed employment figures for twenty industries and three categories of workers. The classification of industries is the same as in the SAM, except for real estate. Employment in this industry was insignificant and thus it has been combined with services n.e.c. Of course, imputed bank services are also not included in the tables on employment. Table 5 gives the employment in agriculture, industry and services for breadwinners, married women and children. On average, 21 percent of employed persons worked in agriculture. However, 37 percent of married women were employed in agriculture. Relatively many children worked in services n.e.c. (23 percent). On average, 58 percent of the employed were breadwinners and 6 percent married women.

TABLE 5

EMPLOYMENT BY POSITION IN THE HOUSEHOLD AND BY INDUSTRY, 1938 (×1,000)

	Breadwinners	Married woman	Children	Total
0 Agriculture and fishing	367.9	59.5	177.5	604.9
1 Mining and quarrying	33.1	1.1	14.3	48.6
2/3 Manufacturing of which:	376.1	11.2	299.2	686.4
20/21 Food, beverages and tobacco industry	92.0	1.9	66.0	159.9
22 Textile industry	30.7	2.1	32.6	65.3
23 Wearing apparel industry	33.4	5.1	47.4	85.9
24 Leather and footwear industry	6.7	0.2	5.9	12.8
25 Wood and furniture industry	27.1	0.1	15.5	42.7
26 Paper and paper products industry	7.2	0.2	6.9	14.3
27 Printing and publishing industry	23.1	0.3	16.9	40.3
28/31 Petroleum and chemical industry	17.6	0.3	13.8	31.7
32 Building materials industry	17.8	0.2	9.8	27.8
33/37 Metal industry	114.3	0.5	81.1	195.9
38/39 Industrial manufacturing n.e.c.	6.0	0.3	3.4	9.7
4 Utilities	19.1	0.2	9.4	28.6
5 Construction	123.7	0.5	52.8	176.9
6 Trade, hotels etc., repairs of consumer goods	300.0	51.6	142.0	493.6
7 Transport, storage and communication	140.2	1.8	48.8	190.8
81/82 Banking and insurance	30.7	0.6	20.3	51.7
83/99 Services n.e.c. except	181.2	30.9	244.6	456.7
90, 92 General government	144.4	4.6	65.2	214.2
Subtotal industry (SBI 1-5)	552.0	12.9	375.6	940.5
Subtotal services	796.5	89.5	520.8	1406.8
Total	1,716.5	161.9	1,073.9	2,952.3

Particularly in metal manufacturing and construction, the contribution of married women to the work force was negligible (0.3 percent). This percentage was much larger in textiles (3 percent) and wearing apparel manufacturing (6 percent). A relatively high share of women in total employment was found in agriculture (10 percent), trade, hotels etc. (10 percent) and in business services n.e.c. (7 percent). In government services, relatively few married women were employed (2 percent of the total).

The share of breadwinners in employment ranged from only 39 percent in wearing apparel manufacturing to 74 percent in transport, storage and communication. In the former industry, not less than 55 percent of the employees were children: the highest percentage of all industries.

Table 6 presents a categorization of breadwinners by industry and by household background. This table is part of a three-dimensional table of employment by industry by labour category by household group. For this reason, there exists no direct link to specific cells in the full SAM. Even at the high level of aggregation shown in Table 6 great differences by industry appeared. On average, two-thirds of the breadwinners were paid labourers (blue and white collar workers and agricultural labourers). In industry this proportion was 80 percent, in services 71 percent and in agriculture it was very low (37.5 percent). As expected, the share of white collar breadwinners in the work force was the largest in services.

TABLE 6

HOUSEHOLD BACKGROUND OF THE EMPLOYMENT OF BREADWINNERS BY INDUSTRY, 1938

Industry	Agricultural Labourers	Farmers	Blue Collar	White Collar	Other Self-employed	Total	Employment
	%						×1000
Agriculture and fishing	34.7	61.6	2.0	0.8	0.9	100.0	367.9
Industry			73.9	6.5	19.6	100.0	552.0
Services			47.3	23.4	29.3	100.0	796.5
Total	7.4	13.2	46.1	13.1	20.1	100.0	1716.5

5. SUMMARY AND CONCLUSIONS

In this article, our aim was to analyze the socio-economic situation in the Netherlands just before World War II. For that purpose, we have compiled an historical SAM for the Netherlands, referring to 1938. From this SAM it appeared that in 1938 the distribution of income and outlays among socio-economic subgroups was rather unequal. The difficulty of the poorest categories—the unemployed and the agricultural labourers—to fulfil more than basic needs was indicated by their very high budget share of food (about 50 percent vs. 20 percent in the more affluent subgroups). In addition, gross saving was negative for the unemployed and insignificant for the agricultural labourers.

Subsequently, figures on employment by industry, labour category (breadwinners, married women, children) and household subgroup were shown. These figures are fully consistent with the data on labour incomes in the SAM proper. In this sense, the employment data constitute an integral part of our data framework. It appeared, for instance, that married women made up only 5.5 percent of total employment. More than two-thirds of them were working in two branches of industry: agriculture and trade, hotels etc. Concerning the household background of breadwinners, substantial differences by industry occurred: in mining and quarrying 94 percent of the breadwinners were blue collar workers, while in finance this proportion was only 15 percent.

This study has used a SAM to arrive at an integrated estimation and presentation of both economic and social data for 1938. In turn, this implies that the values of summary indicators like GDP, NNI, the balance on current account of the balance of payments, employment, income distribution, the fulfilment of various (basic) needs etc. are mutally consistent, both conceptually and numerically.

APPENDIX. DATA SOURCES AND ESTIMATION METHOD FOR DETERMINING THE HOUSEHOLD COMPOSITION BY SOCIO-ECONOMIC CATEGORY

Introduction

This appendix presents the data sources and the estimation method which have been used in determining the number and composition of households. The following items have been estimated.

-Number of households		
-Number of breadwinners		
with main income from	-wages and salaries	-agricultural labour
		-blue collar labour
		-white collar labour
	-mixed income	-farmer
		-other self-employed
	-unemployment benefits	-previously agricultural labour
		-previously blue collar labour
		-previously white collar labour
		-previously self-employed
	-other income	-dividends etc.
		-pensions
		-social benefits (excluding unemployment)
		-other (e.g. students)
-Number of other members		
-married women	-with own income from	-agricultural labour
		-blue collar labour
		-white collar labour
		-agricultural labour
-other members	-no income	
	-with own income from	-agricultural labour
		-blue collar labour
		-white collar labour
		-other income
	-no income	-unemployed
		-other

The Labour force in 1930 and 1938

The questionnaire of the 1930 population censes, held on December 31th, was an extensive one and included a number of questions about the occupation of the respondent. The results have been published in ten volumes; Volume VIII (CBS, 1934b) concerns some of the results for the labour force. Tables Ia and Ib have been used for this study. Table Ia and Ib have been used for this study. Table Ia provides data on the number of labourers by:

a. Branch of industry (excluding a few services);
b. Occupational position;
c. Sex;
d. Marital status;
e. Age group.

The following occupational positions are distinguished:

-Self-employed managers;
-Employed managers;
-Senior personnel, such as craftsmen and foremen.

Table Ib contains data for all branches of industry on common workers and persons working on own account as lawyers, physicians etc.:

a. Occupation;
b. Sex;
c. Marital status;
d. Age group.

These data have been aggregated and modified to agree with a 1- or 2-digit industry level.

At an earlier state of our research (den Bakker, 1992), labour force figures by industry and by household subgroup have been estimated for 1930 and 1938. These estimates are based on Volume VII (CBS, 1934*a*) of the 1930 census, which contains more detail regarding the allocation of labourers by branch of industry, but which does not mention marital status or age. For 1938, the division of the labour force by industry over the households has been based on 1930 ratios. In addition, some corrections had to be made concerning non-allocated blue and white collar labourers. In addition, the figures have been recalculated to year averages.

From the 1930 census the number of households (= the number of breadwinners) has been derived. These households are exclusive of the people living in institutions like mental homes. The first step was to divide the breadwinners into those with an occupation (including unemployed) and those without. The latter figure has been compiled using all kinds of information on social benefits, pension payments, life-insurance payments and on people of independent means in 1938 (145,000). Similar estimates have been made for 1930 which lead to a residual number of households with breadwinners with an occupation (1,840,680). Assuming that married female workers and unmarried children up to a certain age are not breadwinners the labour force data and this number were reconciled. Using the age group 25–29 as a balancing item we found that 80 percent of this group was still living at home. For each industry, the proportions of married women and unmarried children have been estimated.

In 1930, married women could by definition not be unemployed, and thus the total number of unemployed was allocated to breadwinners and working children who lived at home. The same unemployment percentages (den Bakker and van Sorge, 1991) for both groups have been assumed, so that the unemployed were proportionally allocated to branches of industry and household categories. The known total of unemployed breadwinners yielded the size and composition of this subgroup. Tables A1.1 and A1.2 present the results for 1938, per labour category and per branch of industry respectively.

The Composition of Households in 1938

The 1938 population has been divided into four major groups using 1930 ratios:

A. Breadwinners	2,172.3
B. Married women	2,063.7
C. Age group 14–29 (unmarried)	1,919.7
D. Rest	2,528.3
Total population	8,684.1

The next step was to allocate groups B, C and D of this list to household subgroups. The 1935/36 Budget Survey (CBS, 1937) provides household composition, because for each household member the age and position (within the family) was recorded, as well as the occupation of the head of the family. The married

TABLE A1.1

LABOUR FORCE, 1938

	Agricultural Labourers	Farmers	Blue Collar	White Collar	Self-employed	Total
				×1,000		
Total labour force	397.8	283.7	1848.5	483.7	474.3	3488.1
				%		
Married women	1.6	18.4	2.0	2.4	11.5	4.6
Unmarried children	55.9	1.7	44.4	45.4	6.5	37.2
Breadwinners	42.5	79.9	53.6	52.2	82.0	58.0
Labour force	100.0	100.0	100.0	100.0	100.0	100.0

TABLE A1.2

LABOUR FORCE BY BRANCH OF INDUSTRY, 1938

	Total	Total	Married Women	Unmarried Children	Bread-winners
	×1,000			%	
Agriculture and fishing	705.5	100.0	8.4	33.0	58.5
Industry	1,214.5	100.0	1.1	40.6	58.3
Services	1,568.1	100.0	5.7	36.5	57.8
Total	3,488.1	100.0	4.6	37.2	58.1

women have been proportionally distributed among the household categories, excluding the subgroup "other" households. For the age group 14–29, the following calculations have been performed.

Having estimated the total number of employed children and women by kind of economic activity, the next task was to determine to which household category these persons belong. Therefore, the number of unmarried children in the age group 14–29 was split into two groups using the 1930 census figures:

1. Unmarried children with an occupation 1,342,300;
2. Unmarried children without an occupation 577,400;
   Total of the age group 14–29 1,919,700.

We found that 80 percent of the unmarried children with an occupation in the age of 25–29 still lived at home. The relevant total of unmarried children with an occupation is 1,298,859 (from Table A1.1). The ratios concerning married women and the number and age of other household members derived from the Budget Survey (as in the 1930 census: married women were present in 95 percent of the households) were used to distinguish between children under 14 (who don't have an occupation) and those of 14 years and older. The latter group consists of members with an occupation (1,298,859), students (280,000) and others. Those three subgroups have been subdivided taking into account their kind of activity. For instance, children who are agricultural labourers are supposed to live only in the households of farmers and agricultural labourers. In the same way, the married women have been subdivided into employed and not employed categories. Table A1.3 gives a recapitulation of the 1938 household composition.

TABLE A1.3

HOUSEHOLD COMPOSITION IN 1938 (×1000)

	Agricultural Labourers	Farmers	Blue Collar	White Collar	Self-employed	Unemployed	Other	Total
Breadwinners	127.8	226.7	791.8	225.4	344.8	310.9	145.0	2172.3
Married women	121.4	215.3	752.2	214.1	327.6	295.3	137.8	2063.7
Employed	10.5	52.2	26.7	7.6	54.3	10.5	0.0	161.9
Not employed	111.0	163.1	725.4	206.5	273.3	284.8	137.8	1901.8
Children 14-29	77.6	268.1	708.7	175.3	235.2	453.8	1.0	1919.7
Employed	38.5	126.5	435.5	85.6	115.7	271.5	0.6	1073.9
Not employed	39.2	141.6	273.1	89.7	119.5	182.3	0.4	845.8
Of which unemployed	11.7	37.1	83.4	16.4	17.7	58.5	0.1	224.9
Other members	177.7	249.9	1061.5	248.4	339.0	450.7	1.0	2528.3
Total population	504.7	960.0	3,314.1	863.2	1,246.7	1,510.7	284.8	8,684.1

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