CENTRAL BUREAU OF STATISTICS
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WHO CAME OFF WORST: STRUCTURAL CHANGE OF DUTCH VALUE ADDED AND EMPLOYMENT DURING THE INTERWAR PERIOD

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Summary

The Netherlands Central Bureau of Statistics is revising the national accounts data for historical periods. Earlier, revised macro-economic data for the interwar period were published. In this paper, we present the results about the distribution of value added over industries and about a break-down of value added into components. Employment by industry is estimated as well. Moreover, structural changes during the interwar years and in the more recent past are juxtaposed.

Contents

1. Introduction

The Netherlands Central Bureau of Statistics (CBS) started relatively early with a systematic compilation of national accounting data. In the mid nineteen-thirties, Derksen and Tinbergen were pioneers in this field. At first, they concentrated on national income, back-casting time-series until 1900. Later on, during and right after the Second World War, a system of national accounts was designed and gradually expanded to become one of the world's first national accounts system.

In the course of time, national accounts concepts were adjusted in response to changes in international guidelines, estimation methods were greatly improved and many details were added. This led to a number of revisions of the national accounts. Each revision started with compiling the accounts both according to the original methods and according to the revised ones for a certain 'revision year'. Usually, this revision is followed by a recomputation of the accounts for a number of years prior to the revision year; in this way consistent time series of moderate length are obtained. However, it was not possible to carry out these revisions for the whole period from 1900 onward. Consequently, at present national accounts are available for a number of separate subperiods: 1900-20, 1921-39, 1938-47, 1948-68 and 1969-present (see list of references at the end of the paper, page 10). Each of these sets uses specific definitions, methods and levels of detail. Besides, according to the present standards the pre-1948 data are not detailed enough. The Dutch CBS has now begun to revise the data for these historical periods. The aim is to obtain data which match the present national accounts as much as possible.

As a start, CBS is revising the national accounting data for the years 1921-1939. The first results, revised macro-economic data, have already been published (Den Bakker et al., 1987). Work concerning a disaggregation of these data is in progress. Some 20 industries are distinguished and value added is split up into various components: a) wages and salaries, b) social security premiums, c) net operating surplus and d) depreciation. In the revision, integrated estimates of employment and unemployment for each industry are made as well. The classification of industries corresponds

with the one which is currently used in the Dutch input-output tables. Subsequently, comparisons of the interwar period and the more recent past can be carried out.

This improved statistical description of the interwar years makes it possible, for the first time, to study the turbulent economic developments in those years at a meso-level. Since the statistical description of the years 1921-39 is consistent with the one for recent years, comparative analysis can now be done, juxtaposing the depression of the 1930's on the one hand and the depression of the eighties on the other hand.

A major part of the revision of the interwar national accounting data concerns an integrated estimation of the working and non-working labor force by industry. This means, for instance, that for each industry value added per worker and wages per worker become available.

This paper starts out with some remarks about methods and sources. Afterwards, a few estimates of industries' value added in the interwar period and in the more recent past are presented. Besides, general (un)employment trends come up for discussion. A few noticeable developments during the crisis period are mentioned. Finally, detailed figures on wages and salaries are given.

2. Methods and sources

In the revision, Gross Domestic Product (GDP) has been compiled by means of the net production method. In this approach, each industry's total production and intermediate inputs are determined seperately, mainly from source data obtained by surveying producers. The difference between production and use is equal to value added; the sum of value added in all industries equals national income (after a minor correction for net primary income from the rest of the world). In the calculations, the year 1938 plays a crucial role. This year is the first one for which a system of national accounts has been compiled, based on the first input-output table ever constructed for the Netherlands. Ratios from 1938 have been used in allocating macro-totals for the years 1921-37 and 1939. The classification of industries has been harmonized with the present one, called the Netherlands Standard Industrial Classification (SBI) 1974.

With regard to the labour force, only data for 1920 and 1930 are available from labour force surveys. Figures for the other interwar years have been estimated by means of an interpolation procedure, whereby also data from the 1947 labour force survey were employed. Employment and unemployment estimates have been brought together in an integration proces, employing labour force data, accident statistics and trade union statistics. The value added estimates are fully consistent with the employment figures.

In the estimation of industry figures a great number of statistics has been used. A few important ones are: production statistics, statistics on social insurance institutions, census figures and labour force surveys, trade union statistics, 'structure of industrial costs' reports and reports concerning special investigations and annual reports. Many unpublished data from the CBS archives were employed as well.

3. Some results of the revision

Table 1 shows for each industry the average annual growth rate of gross value added (at factor costs). The interwar interval has been divided into a number of subperiods. In the years 1930-34, the whole economy suffered from a deep depression. GDP fell by an annual average of 5.6%. Industrial manufacturing n.e.c. was hit hardest with an average annual value added decrease of about 15%. An average annual value added decline of more than 10% occurred in the wood and furniture industry, textile industry and metal industry. Construction and the supplying building materials industry suffered heavily as well, value added went down with 7.1% and 12.1% respectively. In the service sector, the average annual value added decline was about 3.5%. Even the government had to face the consequences of the crisis, as can be seen from its average annual decrease of 1.2%.

The second half of the thirties was a period of recovery. The industries which were badly hit during the crisis showed a strong recovery. The metal industry even experienced an average annual growth rate of nearly 16.5%. For the purpose of estimating real value added developments corrections have to be made for price movements. In fact, we plan to make such estimates.

Table 1. Gross value added at factor costs by industry, average annual growth rates

SBI		1922-24	1925-29	1930-34	1935-39	1922-29	1930-39	1922-39
		%						
0	Agriculture and fishery	1.1	-1.5	-8.6	6.8	-0.6	-1.2	-0.9
1	Mining and quarrying	4.6	1.1	-6.4	8.0	2.4	0.5	1.4
2/3	Manufacturing	-3.0	3.5	-9.7	10.4	1.0	-0.1	0.4
	of which:							
20/21	Food, beverage and tobacco industry	9.1	1.4	-8.0	5.4	4.2	-1.5	1.0
22	Textile industry	-7.9	4.3	-11.2	12.9	-0.4	0.1	-0.1
23	Wearing apparel industry	-8.8	2.0	-9.9	10.5	-2.2	-0.2	-1.1
24	Leather and footwear industry	-8.4	3.6	-7.5	15.3	-1.1	3.3	1.3
25	Wood and furniture industry	-6.2	4.1	-13.9	7.7	0.1	-3.7	-2.0
26	Paper and paper products industry	12.3	7.7	-8.2	12.7	9.4	1.7	5.1
27	Printing and publishing industry	-4.3	4.3	-8.4	5.6	1.0	-1.7	-0.5
28/31	Petroleum and chemical industry	-0.2	6.0	-5.1	8.1	3.8	1.3	2.4
32	Building materials industry	-3.7	2.7	-12.1	7.0	0.2	-3.0	-1.6
33/37	Metal industry	-9.2	5.3	-10.9	16.4	-0.4	1.8	0.8
38/39	Industrial manufacturing n.e.c.	10.6	-1.4	-15.2	9.3	3.0	-3.7	0.8
4	Utilities	7.1	5.6	2.0	-1.0	6.2	0.5	3.0
5	Construction	-9.6	7.0	-7.1	4.2	0.4	-1.6	-0.7
6	Trade, hotels, restaurants, repairs of consumer goods	0.0	4.7	-5.5	0.8	2.9	-2.4	-0.1
7	Transport, storage and communication	-3.6	3.5	-6.2	3.5	0.8	-1.5	-0.5
81/82	Banking and insurance	-6.1	5.0	-5.2	1.9	0.7	-1.7	-0.6
83/99	Business services n.e.c.	1.1	2.9	-1.4	0.6	2.2	-0.4	0.7
90/92	General Government	-2.3	0.5	-1.2	-0.4	-0.5	-0.8	-0.7
Subtotal industry (SBI 1-5)		-3.0	4.0	-7.9	8.0	1.3	-0.3	0.4
Subtotal services		-1.1	3.3	-3.7	1.1	1.7	-1.3	0.0
Gross Domestic Product (at factor costs)		-1.4	2.9	-5.6	3.9	1.2	-1.0	0.0

Table 2 presents for three years during the interwar period as well as for two more recent years the value added distribution by industry. The table shows several clear-cut trends. In the course of time, the significance of agriculture and fishing diminished strongly. Their contribution to GDP has declined from 14.2% in 1921 to 4.5% in 1986. The contribution of the total industry increased during the interwar period, but between 1969 and 1986 it decreased so that its contribution in 1986 is roughly the same as in 1939.

Table 2. Gross value added (at factor costs) by industry as a percentage of Gross Domestic Product

SBI		1921	1930	1939	1969	1986
		%				
0	Agriculture and fishery	14.2	11.0	11.9	6.6	4.5
1	Mining and quarrying	1.4	1.7	1.7	1.5	6.0
2/3	Manufacturing	24.1	23.4	25.7	27.8	20.9
	of which:					
20/21	Food, beverage and tobacco industry	4.6	5.7	5.5	4.4	4.1
22/24	Textile, wearing apparel and leather industry	6.7	4.9	6.2	2.6	0.7
25,32	Wood, furniture and buildings materials industry	2.7	2.3	1.9	2.1	1.3
26/27	Paper, paper products, printing and publishing industry	1.8	2.0	2.1	2.6	2.2
28/31	Petroleum and chemical industry	1.3	1.7	2.0	5.0	4.2
33/37	Metal industry	6.6	6.5	7.6	10.8	8.0
38/39	Industrial manufacturing n.e.c.	0.5	0.4	0.4	0.3	0.4
4	Utilities	1.8	2.9	3.1	2.4	2.3
5	Construction	5.5	5.7	4.8	8.5	5.7
6	Trade, hotels, restaurants, repairs of consumer goods	14.5	15.9	14.3	16.2	14.7
7	Transport, storage and communication	10.8	10.5	9.8	7.7	8.0
81/82	Banking and insurance	3.5	3.1	3.1	3.1	5.4
83/89	Business services n.e.c.	16.3	18.4	18.5	13.2	19.5
90/92	General Government	8.1	7.5	7.1	13.0	12.9
Subtotal industry (SBI 1-5)		32.8	33.7	35.3	40.1	34.9
Subtotal services		53.0	55.3	52.7	53.3	60.5
Gross Domestic Product (at factor costs)		100.0	100.0	100.0	100.0	100.0

The strong decline of textiles and related industries is undeniable. In the interwar period, the contribution to domestic product was still about 6%, while in 1969 it amounted to 2.6% and in 1986 to 0.7%. The contribution of the petroleum and chemical industry is substantially higher now than in the years 1921-39.

The importance of the service sector in 1969 roughly matches its role during the interwar years. From 1969 onwards, its contribution rose to 60.5% in 1986. The growing significance of the government is revealed by an increasing contribution: from about 8% in the interwar period to about 13% recently.

The depression of the 1930's manifested itself most strongly by a decrease of employment in all industries. After a gradual expansion of employment in the twenties, employment reached its peak in 1930 before

plunging to a much lower level. Especially in construction, employment fell dramatically. In the last years before the Second World War, some improvement followed. Perhaps, this is related to the military built-up during those years. Table 3 displays the employment movements during the interwar period.

Table 3. Employment by branch of industry, index numbers

SBI		1930	1935	1936	1938
		1921=100			
0	Agriculture and fishery	95	77	81	84
1	Mining and quarrying	113	78	83	96
2/3	Manufacturing	117	94	97	113
4	Utilities	105	101	99	100
5	Construction	129	82	77	99
6/9	Services	117	115	114	119
Subtotal industry (SBI 1-5)		118	91	93	109
Total		114	99	100	109

The development of employment is counterbalanced by the unemployment trend. Table 4 shows our estimates of unemployment among wage labourers distinguishing agriculture and fishery, manufacturing and the service sector. Unemployment is at his highest level in 1935 with an unemployment rate of 32.9% in industry. This corresponds with nearly 350,000 persons. The total number of unemployed was more than 600,000 persons.

A subdivision of unemployment by industry shows great differences. Within industry, the unemployment rate in mining and quarrying was relatively low (22.8% in 1935). On the other hand, in construction and related industries, unemployment was very high: half of the workers (!) in those industries were unemployed in 1936.

In addition to the unemployment of wage labourers, unemployment also occured among the self-employed. The unemployment rate of the self-employed is much lower than that of the dependent labour force. In 1935, the unemployment of self-employed is at his highest level with 7.8% (57,000 persons). The fluctuations are much less than we saw for the dependent labour force; the lowest percentage in the interwar period is 4,5% in 1928.

Table 4. Unemployment among wage labourers

	Agriculture fishery	Industry	Services	Total
	%			
1920	5.4	4.3	1.5	3.3
1921	9.9	7.2	2.5	5.7
1922	11.5	10.1	2.8	7.2
1923	9.1	12.1	2.9	7.6
1924	7.6	9.6	2.7	6.2
1925	8.3	8.4	2.8	5.9
1926	4.9	7.6	3.1	5.1
1927	5.9	7.5	3.1	5.3
1928	6.6	5.7	2.6	4.5
1929	11.7	6.1	2.7	5.4
1930	8.5	7.2	2.6	5.4
1931	18.0	13.9	5.1	10.6
1932	32.7	28.8	8.1	20.0
1933	36.4	29.8	10.2	21.9
1934	27.3	28.9	10.5	20.2
1935	29.4	32.9	11.6	22.7
1936	26.1	32.6	12.4	22.5
1937	24.6	25.6	11.1	18.9
1938	24.0	22.2	10.4	17.1
1939	20.7	15.0	8.4	12.7

A similarity between the interwar period and the eighties is that in both periods substantial unemployment occurred. Our estimates for the interwar period are not strictly comparable with recent data due to differences in definitions and estimation methods. By way of illustration, it can be mentioned that in 1988 the registrated number unemployed was 433,000 persons, that is about 6.5% of the total labor force. All in all, we are pretty confident that the unemployment rate during the interwar period by far exceeded the one during the recent recession.

Table 5 shows the development of the wages and salaries per worker in some industries. It appears that in 1936 the lowest point of the crisis was reached. Afterwards, the compensation of employees shows a small increase. Again, construction was hit hardest. Notably, the wage rate in agriculture is relatively stable. The data in table 5 are not corrected for trends in the consumer price index. Work concerning estimates of real developments is in progress.

Table 5. Wages and salaries per worker by branch of industry, index numbers

SBI		1930	1935	1936	1938
		1921=100			
0	Agriculture and fishery	106	96	91	97
1	Mining and quarrying	108	101	100	109
2/3	Manufacturing	95	82	79	80
4	Utilities	106	103	99	102
5	Construction	77	68	64	63
6/9	Services	93	80	80	79
Subtotal industry (SBI 1-5)		92	81	78	79
Total		95	84	82	83

Apart from the income of paid employees, we have estimated the income of the self-employed as well. Preliminary results show that the average income of self-employed decreased much stronger than that of paid employees. In this respect, self-employed were struck by the crises to a larger extent than the wage labourers. In 1934, the average income of self-employed has declined to only half the level of 1921, while in 1934 the average income of paid employees had dropped to about 85% of the 1921 level. It is obvious, that during the crisis the paid employees were fired whereas the self-employed suffered through a severe drop in their income.

References

CBS (Centraal Bureau voor de Statistiek), 1941, Berekeningen over het nationale inkomen van Nederland voor de periode 1900-1920. Speciale onderzoekingen van de Nederlandse conjunctuur, No.4.

CBS, 1950a, Het nationale inkomen van Nederland, 1940-1945. Statistische en Econometrische Onderzoekingen, 1e kwartaal 1950 (Uitgeversmaatschappij W. de Haan N.V., Utrecht).

CBS, 1950b, De Nationale Jaarrekeningen: doeleinden, problemen, resultaten. No.8 der Monografieën van de Nederlandse Conjunctuur (Uitgevers-maatschappij W. de Haan N.V., Utrecht). [National accounting data on 1938, 1946 and 1947].

CBS, 1958, Statistische en Econometrische Onderzoekingen, 2e en 3e kwartaal 1958 (Uitgeversmaatschappij W. de Haan N.V., Zeist). [National accounting data on 1948-1957].

CBS, 1959..1969, National Accounts (Annual publication).

CBS, 1985, Nationale rekeningen 1969-1981 met herziene reeksen voor de jaren 1969-1976 (Staatsuitgeverij / CBS-publikaties, 's-Gravenhage).

CBS, 1983..1990 , National Accounts (Annual publication).

Den Bakker, Gert P., Theo A. Huitker and Cornelis A. van Bochove, 1987, The Dutch Economy, 1921-1939 and 1969-1985. A Comparison based on Revised Macro-economic data for the Interwar Period. Paper presented at the Twentieth General Conference of the International Association for Research of Income and Wealth, Rocca di Papa, Italy 23-28 August 1987. Also issued as National Accounts Occasional Paper, Nr. NA-018 (Netherlands Central Bureau of Statistics, Voorburg).

National Accounts Occasional Papers

NA/01 **Flexibility in the system of National Accounts**, Van Eck, R., C.N. Gorter and H.K. van Tuinen (1983).
This paper sets out some of the main ideas of what gradually developed into the Dutch view on the fourth revision of the SNA. In particular it focuses on the validity and even desirability of the inclusion of a number of carefully chosen alternative definitions in the "Blue Book", and the organization of a flexible system starting from a core that is easier to understand than the 1968 SNA.

NA/02 **The unobserved economy and the National Accounts in the Netherlands, a sensitivity analysis**, Broesterhuizen, G.A.A.M. (1983).
This paper studies the influence of fraud on macro-economic statistics, especially GDP. The term "fraud" is used as meaning unreporting or underreporting income (e.g. to the tax authorities). The conclusion of the analysis of growth figures is that a bias in the growth of GDP of more than 0.5% is very unlikely.

NA/03 **Secondary activities and the National Accounts: Aspects of the Dutch measurement practice and its effects on the unofficial economy**, Van Eck, R. (1985).
In the process of estimating national product and other variables in the National Accounts a number of methods is used to obtain initial estimates for each economic activity. These methods are described and for each method various possibilities for distortion are considered.

NA/04 **Comparability of input-output tables in time**, Al, P.G. and G.A.A.M. Broesterhuizen (1985).
It is argued that the comparability in time of statistics, and input-output tables in particular, can be filled in in various ways. The way in which it is filled depends on the structure and object of the statistics concerned. In this respect it is important to differentiate between coordinated input-output tables, in which groups of units (industries) are divided into rows and columns, and analytical input-output tables, in which the rows and colunms refer to homogeneous activities.

NA/05 **The use of chain indices for deflating the National Accounts**, Al, P.G., B.M. Balk, S. de Boer and G.P. den Bakker (1985).
This paper is devoted to the problem of deflating National Accounts and input-output tables. This problem is approached from the theoretical as well as from the practical side. Although the theoretical argument favors the use of chained Vartia-I indices, the current practice of compilating National Accounts restricts to using chained Paasche and Laspeyres indices. Various possible objections to the use of chained indices are discussed and rejected.

NA/06 **Revision of the system of National Accounts: the case for flexibility**, Van Bochove, C.A. and H.K. van Tuinen (1985).
It is argued that the structure of the SNA should be made more flexible. This can be achieved by means of a system of a general purpose core supplemented with special modules. This core is a fully fledged, detailed system of National Accounts with a greater institutional content than the present SNA and a more elaborate description of the economy at the meso-level. The modules are more analytic and reflect special purposes and specific theoretical views. It is argued that future revisions will concentrate on the modules and that the core is more durable than systems like present SNA.

NA/07 **Integration of input-output tables and sector accounts; a possible solution**, Van den Bos, C. (1985).
The establishment-enterprise problem is tackled by taking the institutional sectors to which the establishments belong into account during the construction of input-output tables. The extra burden on the construction of input-output tables resulting from this approach is examined for the Dutch situation. An adapted sectoring of institutional units is proposed for the construction of input-output tables.

NA/08 **A note on Dutch National Accounting data 1900-1984**, Van Bochove, C.A. (1985).
This note provides a brief survey of Dutch national accounting data for 1900-1984, concentrating on national income. It indicates where these data can be found and what the major discontinuities are. The note concludes that estimates of the level of national income may contain inaccuracies; that its growth rate is measured accurately for the period since 1948; and that the real income growth rate series for 1900-1984 may contain a systematic bias.

NA/09 **The structure of the next SNA: review of the basic options**, Van Bochove, C.A. and A.M. Bloem (1985).
There are two basic issues with respect to the structure of the next version the UN System of National Accounts. The first is its 'size ': reviewing this issue, it can be concluded that the next SNA must be 'large ' in the sense of containing an integrated meso-economic statistical system. It is essential that the next SNA contains an institutional system without the imputations and attributions that pollute present SNA. This can be achieved by distinguishing, in the central system of the next SNA, a core (the institutional system), a standard module for non-market production and a standard module describing attributed income and consumption of the household sector.

NA/10 **Dual sectoring in National Accounts**, Al, P.G. (1985).
Following a conceptual explanation of dual sectoring, an outline is given of a statistical system with complete dual sectoring in which the linkages are also defined and worked out. It is shown that the SNA 1968 is incomplete and obscure with respect to the links between the two sub-processes.

NA/11 **Backward and forward linkages with an application to the Dutch agro-industrial complex**, Harthoorn, R. (1985).
Some industries induce production in other industries. An elegant method is developed for calculating forward and backward linkages avoiding double counting. For 1981 these methods have been applied to determine the influence of Dutch agriculture in the Dutch economy in terms of value added and labour force.

NA/12 **Production chains**, Harthoorn, R. (1986).
This paper introduces the notion of production cains as a measure of the hierarchy of industries in the production process. Production chains are sequences of transformation of products by successive industries. It is possible to calculate forward transformations as well as backward ones.

NA/13 **The simultaneous compilation of current price and deflated input-output tables**, De Boer, S. and G.A.A.M. Broesterhuizen (1986).
A few years ago the method of compiling input-output tables underwent in the Netherlands an essential revision. The most significant improvement is that during the entire statistical process, from the processsing and analysis of the basic data up to and including the phase of balancing the tables, data in current prices and deflated data are obtained simultaneously and in consistency with each other.

NA/14 **A proposal for the synoptic structure of the next SNA**, Al, P.G. and C.A. van Bochove (1986).

NA/15 **Features of the hidden economy in the Netherlands**, Van Eck, R. and B. Kazemier (1986).
This paper presents survey results on the size and structure of the hidden labour market in the Netherlands.

NA/16 **Uncovering hidden income distributions: the Dutch approach**, Van Bochove, C.A. (1987).

NA/17 **Main national accounting series 1900-1986**, Van Bochove, C.A. and T.A. Huitker (1987).
The main national accounting series for the Netherlands, 1900-1986, are provided, along with a brief explanation.

NA/18 **The Dutch economy, 1921-1939 and 1969-1985. A comparison based on revised macro-economic data for the interwar period**, Den Bakker, G.P., T.A. Huitker and C.A. van Bochove (1987).
A set of macro-economic time series for the Netherlands 1921-1939 is presented. The new series differ considerably from the data that had been published before. They are also more comprehensive, more detailed, and conceptually consistent with the modern National Accounts. The macro-economic developments that are shown by the new series are discussed. It turns out that the traditional economic-historical view of the Dutch economy has to be reversed.

NA/19 **Constant wealth national income: accounting for war damage with an application to the Netherlands, 1940-1945**, Van Bochove, C.A. and W. van Sorge (1987).

NA/20 **The micro-meso-macro linkage for business in an SNA-compatible system of economic statistics**, Van Bochove, C.A. (1987).

NA/21 **Micro-macro link for government**, Bloem, A.M. (1987).
This paper describes the way the link between the statistics on government finance and national accounts is provided for in the Dutch government finance statistics.

NA/22 **Some extensions of the static open Leontief model**, Harthoorn, R. (1987).
The results of input-output analysis are invariant for a transformation of the system of units. Such transformation can be used to derive the Leontief price model, for forecasting input-output tables and for the calculation of cumulative factor costs. Finally the series expansion of the Leontief inverse is used to describe how certain economic processes are spread out over time.

NA/23 **Compilation of household sector accounts in the Netherlands National Accounts**, Van der Laan, P. (1987).
This paper provides a concise description of the way in which household sector accounts are compiled within the Netherlands National Accounts. Special attention is paid to differences with the recommendations in the United Nations System of National Accounts (SNA).

NA/24 **On the adjustment of tables with Lagrange multipliers**, Harthoorn, R. and J. van Dalen (1987).
An efficient variant of the Lagrange method is given, which uses no more computer time and central memory then the widely used RAS method. Also some special cases are discussed: the adjustment of row sums and column sums, additional restraints, mutual connections between tables and three dimensional tables.

NA/25 **The methodology of the Dutch system of quarterly accounts**, Janssen, R.J.A. and S.B. Algera (1988).
In this paper a description is given of the Dutch system of quarterly national accounts. The backbone of the method is the compilation of a quarterly input-output table by integrating short-term economic statistics.

NA/26 **Imputations and re-routeings in the National Accounts**, Gorter, Cor N. (1988).
Starting out from a definition of 'actual' transactions an inventory of all imputations and re-routeings in the SNA is made. It is discussed which of those should be retained in the core of a flexible system of National Accounts. Conceptual and practical questions of presentation are brought up. Numerical examples are given.

NA/27 **Registration of trade in services and market valuation of imports and exports in the National Accounts**, Bos, Frits (1988).
The registration of external trade transactions in the main tables of the National Accounts should be based on invoice value; this is not only conceptually very attractive, but also suitable for data collection purposes.

NA/28 **The institutional sector classification**, Van den Bos, C. (1988).
A background paper on the conceptual side of the grouping of financing units. A limited number of criteria are formulated.

NA/29 **The concept of (transactor-)units in the National Accounts and in the basic system of economic statistics**, Bloem, Adriaan M. (1989).
Units in legal-administrative reality are often not suitable as statistical units in describing economic processes. Some transformation of legal-administrative units into economic statistical units is needed. This paper examines this transformation and furnishes definitions of economic statistical units. Proper definitions are especially important because of the forthcoming revision of the SNA.

NA/30 **Regional income concepts**, Bloem, Adriaan M. and Bas De Vet (1989).
In this paper, the conceptual and statistical problems involved in the regionalization of national accounting variables are discussed. Examples are the regionalization of Gross Domestic Product, Gross National Income, Disposable National Income and Total Income of the Population.

NA/31 **The use of tendency surveys in extrapolating National Accounts**, Ouddeken, Frank and Gerrit Zijlmans (1989).
This paper discusses the feasibility of the use of tendency survey data in the compilation of very timely Quarterly Accounts. Some preliminary estimates of relations between tendency survey data and regular Quarterly Accounts-indicators are also presented.

NA/32 **An economic core system and the socio-economic accounts module for the Netherlands**, Gorter, Cor N. and Paul van der Laan (1989).
A discussion of the core and various types of modules in an overall system of economy related statistics. Special attention is paid to the Dutch Socio-economic Accounts. Tables and figures for the Netherlands are added.

NA/33 **A systems view on concepts of income in the National Accounts**, Bos, Frits (1989).
In this paper, concepts of income are explicitly linked to the purposes of use and to actual circumstances. Main choices in defining income are presented in a general system. The National Accounts is a multi-purpose framework. It should therefore contain several concepts of income, e.g. differing with respect to the production boundary. Furthermore, concepts of national income do not necessarily constitute an aggregation of income at a micro-level.

NA/34 **How to treat borrowing and leasing in the next SNA**, Keuning, Steven J. (1990).
The use of services related to borrowing money, leasing capital goods, and renting land should not be considered as intermediate inputs into specific production processes. It is argued that the way of recording the use of financial services in the present SNA should remain largely intact.

NA/35 **A summary description of sources and methods used in compiling the final estimates of Dutch National Income 1986**, Gorter, Cor N. and others (1990).
Translation of the inventory report submitted to the GNP Management Committee of the European Communities.

NA/36 **The registration of processing in make and use tables and input-output tables**, Bloem, Adriaan M., Sake De Boer and Pieter Wind (1990, forthcoming).
The registration of processing is discussed primarily with regard to its effects on input-output-type tables and input-output quotes. Links between National Accounts and basic statistics, user demands and international guidelines are examined.

NA/37 **A proposal for a SAM which fits into the next System of National Accounts**, Keuning, Steven J. (1990).
This paper shows that all flow accounts which may become part of the next System of National Accounts can be embedded easily in a Social Accounting Matrix (SAM). In fact, for many purposes a SAM format may be preferred to the traditional T-accounts for the institutional sectors, since it allows for more flexibility in selecting relevant classifications and valuation principles.

NA/38 **Net versus gross National Income**, Bos, Frits (1990).
In practice, gross figures of Domestic Product, National Product and National Income are most often preferred to net figures. In this paper, this practice is challenged. Conceptual issues and the reliability of capital consumption estimates are discussed.

NA/39 **Concealed interest income of households in the Netherlands; 1977, 1979 and 1981**, Kazemier, Brugt (1990).
The major problem in estimating the size of hidden income is that total income, reported plus unreported, is unknown. However, this is not the case with total interest income of households in the Netherlands. This makes it possible to estimate at least the order of magnitude of this part of hidden income. In this paper it will be shown that in 1977, 1979 and 1981 almost 50% of total interest received by households was concealed.

NA/40 **Who came off worst: Structural change of Dutch value added and employment during the interwar period**, Den Bakker, Gert P. and Jan de Gijt (1990).
In this paper new data for the interwar period are presented. The distribution of value added over industries and a break-down of value added into components is given. Employment by industry is estimated as well. Moreover, structural changes during the interwar years and in the more recent past are juxtaposed.

NA/41 **The supply of hidden labour in the Netherlands: a model**, Brugt Kazemier and Rob van Eck (1990).
This paper presents a model of the supply of hidden labour in the Netherlands. Model simulations show that the supply of hidden labour is not very sensitive to cyclical fluctuations. A tax exempt of 1500 guilders for second jobs and a higher probability of detection, however, may substantially decrease the magnitude of the hidden labour market.

NA/42 **Benefits from productivity growth and the distribution of income**, Keuning, Steven J. (1990).
This paper contains a discussion on the measurement of multifactor productivity and sketches a framework for analyzing the relation between productivity changes and changes in the average factor remuneration rate by industry. Subsequently, the effects on the average wage rate by labour category and the household primary income distribution are studied.

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