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***Revision Dutch National Accounts:
first results and backgrounds***

Gert Buiten, Jacqueline van den Hof and Peter van de Ven



Statistics Netherlands

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Verklaring der tekens

.	= gegevens ontbreken
*	= voorlopig cijfer
x	= geheim
-	= nihil
-	= (indien voorkomend tussen twee getallen) tot en met
0 (00)	= het getal is minder dan de helft van de gekozen eenheid
niets (blank)	= een cijfer kan op logische gronden niet voorkomen
1998-1999	= 1998 tot en met 1999
1998/1999	= het gemiddelde over de jaren 1998 tot en met 1999
1998/'99	= oogstjaar boekjaar schooljaar enz. beginnend in 1998 en eindigend in 1999
1988/'89-1998/'99	= boekjaar enz. 1988/'89 tot en met 1998/'99

In geval van afronding kan het voorkomen dat de totalen niet geheel overeenstemmen met de som der opgetelde getallen.
Verbeterde cijfers in staten en tabellen zijn niet als zodanig gekenmerkt.

Explanation of symbols

.	= data not available
*	= provisional figure
x	= publication prohibited (confidential figure)
-	= nil
-	= (between two figures) inclusive
0 (00)	= less than half of unit employed
a blank	= category not applicable
1998-1999	= 1998 to 1999 inclusive
1998/1999	= average for the years 1998 up to and including 1999
1998/'99	= crop year financial year school year etc. beginning in 1998 and terminating in 1999
1988/'89-1998/'99	= book year etc. 1988/'89 up to and including 1998/'99

Detailed items in tables do not necessarily add to totals because of rounding.
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Abstract

As in many other countries, the national accounts of The Netherlands have been revised, in accordance with the new world-wide System of National Accounts (SNA) 1993, and its European equivalent, the European System of National and Regional Accounts (ESA) 1995. As a consequence, the new national accounts data give a better picture of a number of recent developments, like the expanding importance of services, automation, information and knowledge. In addition, new statistical insights and results have been incorporated. The revision has implications for the macro-economic description and for a number of policy indicators. For the year 1995, Gross Domestic Product (GDP) has been adjusted upwards by 26.4 billion guilders, an increase of 4.1%. The upward adjustment is largely caused by the implementation of the new international guidelines. The net national income (NNI) has increased less (1.1%), since a large part of the changes concerns an upward adjustment of consumption of fixed capital. The revision also effects a numbers of policy indicators. Net borrowing of government has changed a few tenths of a percentage point (in some years upwards, in other years downwards). Government debt as a percentage of GDP has decreased by almost two percentage-points, mainly caused by the change in GDP.

This paper starts with a short introduction to the main reasons for the revision of the Dutch national accounts. Subsequently, attention is paid to the results on a macro-level. These parts mainly focus on the revision of data in relation to the production process. Finally, some issues in relation to the implementation of the revision are discussed.

Unless stated otherwise, the data in this paper relate to the year 1995.

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1. Reasons for the 1995 revision

1. Recently, the Dutch national accounts have been revised, using 1995 as the base year. Not surprisingly, the main cause for this revision is the introduction of new international guidelines for the compilation of national accounts: the worldwide System of National Accounts (SNA) 1993, and its European equivalent, the European System of National and Regional Accounts (ESA) 1995. In the first place, the introduction of the new guidelines means an adjustment of the national accounts to recent economic phenomena. In addition, the introduction enhances the international comparability of macro-economic data. Particularly under the terms of the Economic and Monetary Union (EMU) an optimal mutual comparability is highly important.

2. Many of the changes in definition from the “old” European guidelines, the 1979 ESA, to the 1995 ESA have an impact on the main aggregates in general and on Gross Domestic Product (GDP) and Gross National Product (GNP) in particular. In addition, there are a number of definitional changes which only affect the data by industry or the sector accounts, and not the economy as a whole. In order to ensure that everyone interprets the changes in the European guidelines in the same way, the Commission adopted a Decision (97/178/EC, Euratom) which includes an exhaustive list of definitional changes, which may affect GDP or GNP. The Decision also presents an in-depth analysis of the effects throughout the system of accounts. The statistical implementation of these principles is, of course, a different matter, which will inevitably depend on the primary statistics available in the countries concerned.

3. The 23 definitional changes included in the Commission Decision are presented in table 1, in the order in which they appear in the Commission Decision. Here, the effect on Dutch GDP has been mentioned as well. In addition, major changes in the Dutch national accounts due to the revision of the international guidelines, which do not affect GDP or GNP, are included in the table. A short description of the changes is given in annex 1.

4. Within the European (Monetary) Union, GDP and GNP are highly important indicators, not only for macro-economic reasons. These indicators are also used for administrative and political purposes: financial contribution to the European Union, government deficit and debt as a percentage of GDP, etc. To enhance international comparability, in the past some general reservations were made in relation to the national accounts data of the Member States: exhaustiveness, the inclusion of compensation of employees in kind, an internationally harmonised estimation of housing services from owner-occupied dwellings, etc. In addition, each Member State had a number of specific reservations. For The Netherlands, there was only one minor reservation: the inclusion of agricultural output for own final use from private allotments. Up to the 1995 revision, the changes in the macro-economic indicators due to these reservations were not included in the system of national accounts as published in The Netherlands. They were only included in a specific table, the GNP-questionnaire, which had to be delivered to the European Union. As a consequence, the “harmonised” GDP/GNP differed from the published data. The 1995 revision has been used to incorporate the reservations.

5. Another major reason for the revision was the inclusion of new data-sources and calculation methods in the Dutch National Accounts. Changes in data sources relate to e.g. government statistics, statistics on holdings, statistics for the recycling industry, and statistics on R&D-institutions. Apart from the above-mentioned services from owner-occupied dwellings, an important change in calculation methods relates to the calculation of consumption of fixed capital. Also the interpretation of the data on imports and exports has changed dramatically; the effect on the balance of exports and imports, and consequently on GDP and GNP, however, is quite small.

Table 1
Adjustments due to the revision of the National Accounts, 1995 1)

Adjustments compared to the publication "National Accounts 1997" 1)		Effect on GDP	Effect on GDP
		<i>billion guilders</i>	<i>%-point GDP</i>
Adjustments related to the introduction of new international guidelines			
1.	Change in residence criterion of installation and construction activities abroad	-	-
2.	Financial intermediation services indirectly measured (FISIM)	-	-
3.	Change in the definition of insurance output	1.1	0.2
4.	Registration of reinvested earnings on foreign direct investment as property income		
5.	Registration of interest on accrual basis	-	-
6.	Change in time of recording of cultivated natural growth of plants	0.4	0.1
7.	Registration of software and large databases as fixed capital formation	5.3	0.8
8.	Registration of part of military durables as fixed capital formation	1.5	0.2
9.	Registration of work in progress in services	-	-
10.	Registration of all mineral exploration expenditures as fixed capital formation	0.5	0.1
11.	Introduction of consumption of fixed capital on roads, bridges, dams, etc.	9.2	1.4
12.	Change in registration of government licences and fees	-0.6	-0.1
13.	Valuation of output for own final use and output from voluntary activity	0.6	0.1
14.	Change in the value threshold for capital goods	-	-
15.	Change in market/non-market criteria	1.3	0.2
16.	Change in the registration of subsidies	0.7	0.1
17.	Registration of entertainment, literary and artistic originals as fixed capital formation	0.3	0.0
18.	Change in registration of services associated with the use of entertainment, literary and artistic originals	0.1	0.0
19.	Introduction of a rental value for separate garages	0.2	0.0
20.	Change in registration of car registration taxes paid by households	-	-
21.	Change in valuation of compensation of employees in kind	-	-
22.	Change in registration of licences paid for the use of intangible non-produced assets	2)	
23.	Change in registration of stamp taxes	-	-
24.	Change in registration of R&D-activities		
25.	Gross registration of services of travel companies and processing		
26.	Revision concepts of final consumption expenditure and introduction of non-profit institutions serving households		
27.	Introduction of additional specifications of output and operating surplus; dual acting		
Adjustments not related to the introduction of new international guidelines			
28.	Change in registration of people working in sheltered workshops	3.6	0.6
29.	Introduction of wages and salaries in kind	2.7	0.4
30.	Change in the valuation of output of financial institutions	1.3	0.2
31.	Registration of valuables as capital formation	0.2	0.0
32.	Change in the valuation of capital formation in livestock	0.6	0.1
33.	Change in the valuation of output of owner-occupied dwelling and houses for recreation	-8.4	-1.3
34.	Change in the calculation of consumption of fixed capital	0.1	0.0
35.	Re-definition of financial institutions		
36.	Re-definition of public administration		
37.	Re-definition of agriculture		
38.	Subdivision of privatised public enterprises		
	Other changes in sources and methods	5.5	0.9

1) Some changes already were introduced in the harmonised GDP

2) Included in 18.

6. For reasons not to complicate the 1995 revision process, the classification of industries and product groups according to NACE.Rev2 and CPA had already been introduced in the supply and use tables for the base year 1993. Nevertheless, the classification of some industries and the definition of some establishments have been changed in the 1995 revision. These changes especially relate to agriculture, financial intermediation, public administration, and the registration of privatised public enterprises.

7. Items 28 to 38 in table 1 give an overview of the major changes due to the incorporation of the EU-reservations, the inclusion of new calculation methods and classifications. For a short description of the changes, reference is made to annex 1. Two of the most important changes, however, still have not been mentioned. First of all, this concerns the integration of labour market data in the system of national accounts and those in the labour accounts; see also Leunis, Wim, 1999. Apart from the introduction of the new international guidelines, the integration of labour market data was one of the most important goals of the 1995 revision, and we consider the achievement of this goal as a major success.

8. Secondly, we have managed to integrate the energy statistics with the national accounts data. This integration offers numerous advantages. Apart from the wider range of source data that can be drawn on, a major advantage is that physical quantities of supply and use of energy are tallied with the relevant values in the national accounts. An inherently consistent system is thereby created in which energy statistics, national accounts and related statistics such as the Pollutant Emission Register (PER: a set of air-pollution statistics directly linked to energy statistics) are all featured. In the past, these sets of statistics were, in part, produced independently of one another.

9. Finally, numerous data in the national accounts have been more or less adjusted on the basis of the statistical integration process. To this end the results of a large number of statistics are faced with each other, such that from this a consistent statistical system arises.

2. Results of the 1995 revision

2.1 GDP and expenditure

10. The estimate for Gross Domestic Product (GDP) over 1995 has been increased by the revision with 26.4 billion guilders from 639.7 billion to 666.0 billion guilders, an upward adjustment of 4.1% (see table 2). To a large extent, the increase of the GDP estimate can be attributed to the introduction of ESA 1995 and definitional changes related to the EU-reservations. On balance, the adjustments on the basis of the new statistical insights and results (including changes in calculation methods related to EU-reservations) affect the level of GDP only a little downwards. The adjustment of Net National Income (NNI) is smaller than that of GDP: 1.1%. This is, among other things, due to the higher estimate of consumption of fixed capital, which is extraneous to the NNI.

11. The most important reasons for the increase of GDP are the introduction of consumption of fixed capital on public infrastructure (+9.2 billion) and the registration of software as capital formation (+5.3 billion). In addition, the interpretation of people working in sheltered workshops as employees instead of welfare recipients has raised GDP by 3.6 billion guilders. An improved registration of company cars and other forms of wages and salaries in kind end in an upward change of 2.7 billion guilders. Because of the changes in the output of insurance activities, GDP has increased by 2.4 billion guilders; because of shifts between market and non-market units by 1.3 billion guilders; and because of the interpretation of military durables as fixed capital formation by 1.5 billion guilders. Due to these seven changes together GDP has increased by 26.0 billion guilders. On the other hand, some definitional adjustments have a decreasing effect on GDP. The changes by the re-definition of government licences and fees have deduced GDP with 0.6 billion guilders. The non-definitional adjustments have on balance a decreasing effect of 2.1 billion guilders on GDP.

12. In relation to the data on expenditure for the total economy, particularly the significance of capital formation has increased. This is especially linked with the extension of the concept of capital formation. Indeed, from now on, software, mineral exploration expenditures, and purchases of durable goods by military authorities are considered as capital formation. Because of this, and some other minor changes, capital formation has increased by 13.2 billion guilders in all. Its contribution to total final expenditure has increased from 13.0% to 13.4%.

13. The new registration of final consumption expenditure related to social benefits in kind causes a shift from household to government consumption. Apart from this shift, total final consumption expenditure has been estimated 12.7 billion guilders higher. Largely, this refers to an increase of final consumption expenditure of general government due to the larger consumption of fixed capital and the registration of people working in sheltered workshops as employees. The contribution of consumption in total final expenditure has decreased from 50.6% to 48.2%.

Table 2
Adjustments because of the revision to the supply and disposition of goods and services, 1995

	Before revision	After revision	Change
<i>billion guilders</i>			
1 Domestic product (gross, market prices)	639,7	666,0	26,4
2 Imports	296,9	343,6	46,8
3 (1 + 2) Disposable for final expenditure (gross)	936,5	1009,7	73,2
4 Final consumption expenditure	474,0	486,7	12,7
5 Fixed capital formation (gross)	122,0	135,2	13,2
6 Changes in inventories	1,0	4,6	3,6
7 (4 + 5 + 6) National final expenditure	596,9	626,5	29,5
8 Exports	339,6	383,2	43,6
9 (7 + 8) Total final expenditure	936,5	1009,7	73,1

14. In foreign trade, imports as well as exports have increased significantly. Both are more than 40 billion guilders higher because of the revision. This is largely due to the gross registration of processing, the improvement of Intrastat-data, and a re-interpretation of transit goods. The contribution of exports in total final expenditure has increased from 36.3% to 37.9%. Since the adjustment of imports is somewhat higher than that of exports, the estimate of net exports has decreased from 42.7 billion guilders to 39.6 billion guilders.

Table 3
Adjustments of the income because of the revision, 1995

	Before revision	After revision	Change
<i>billion guilders</i>			
1 Wages and salaries	275.4	289.7	14.3
2 Employers' social contributions	49.9	51.4	1.5
3 Taxes on production and imports	82.0	79.1	-2.9
4 Subsidies (-)	-12.1	-11.3	0.9
5 Consumption of fixed capital	73.6	100.7	27.1
6 Operating surplus/mixed income (net)	170.9	156.4	-14.5
7 (1 through 6) Gross domestic product	639.7	666.0	26.4

2.2 Generation of income

15. In relation to the generation of income, the estimate of compensation of employees has been adjusted upwards by 15.8 billion guilders (see table 3). These adjustments are in particular due to the change in wages and salaries in kind, the different treatment of people working in sheltered workshops, and the integration with Labour Accounts. As a consequence, the share of compensation of employees in total generated income has slightly increased, from 50.9% to 51.2%.

16. Taxes on production and imports have been estimated 2.9 billion guilders lower. Here, the changed borderline of government licences and fees is the most important. The share of taxes on production and imports has decreased from 12.8% to 11.9%. The total amount of subsidies has been adjusted downwards by 0.9 billion guilders. Here, the change in the delineation between subsidies and government purchases is important. The (negative) contribution of subsidies in total generated income has decreased slightly, from 1.9% to 1.7%.

17. For consumption of fixed capital, the revision has resulted in an increasing effect of 27.1 billion guilders. First of all, this is due to the inclusion of consumption of fixed capital on public infrastructure (9.2 billion guilders). Furthermore, the extensions of the notion of capital formation and the revision of the estimated life expectancy of capital goods have effect. As a consequence, the contribution of fixed capital consumption in total generated income has increased from 11.5% to 15.1%. The huge adjustment of fixed capital consumption – at the cost of operating surplus and mixed income – is the most important reason for the adjustment of NNI being much smaller than that of GDP. Because of the above changes, the estimate of operating surplus and mixed income (net) has decreased by 14.5 billion guilders. Its share in total generated income has decreased from 26.7% to 23.5%.

2.3 Government

18. As a consequence of the revision, both government deficit and government debt as a percentage of GDP has changed (see table 4). Government deficit after revision amounts to 4.2%; before revision, it was 4.0% of GDP. Government debt has been adjusted from 78.8% to 76.9% of GDP. The government deficit and debt ratio are two important indicators for the further development of the Economic and Monetary Union (EMU).

19. The change in government deficit is mainly due to a different definition of the general government sector, and the change in the moment of registration of taxes and social contributions. The size of the sector general government has been adjusted on the basis of the changed criteria between market and non-market producers in the ESA 1995. Because of this, general government has been extended with some (former) parts of the railway company (e.g. the exploitation of the rail network and traffic control) and the Dutch Investment Bank for Developing countries (NIO). Furthermore, a number of private non-profit organisations, which are mainly financed and supervised by government, have become part of general government. The latter include some research organisations (e.g. NWO), the Open Universities, organisations in the field of development aid (like the NOVIB), centres for asylum applicants, Chambers of Commerce and a lot of cultural organisations (like musea and libraries).

20. The change in definition of social security funds has resulted in fewer units than before revision. After revision, some social arrangements, provided for by labour contracts, do not belong to the government sector anymore. Examples are early retirement funds (VUT-funds) and risk funds for the construction industry. This also applies to arrangements, provided by the government to its own employees. Because of this, the fund for disablement benefits for government employees (the FAOP) and the private health insurance for police and local government officials (DGVP, IZA and IZR) have been excluded from the social security funds. Especially the exclusion of the FAOP and the VUT-funds make the government deficit deteriorate, because of the large surplus of these funds in 1995. On balance, the changed definition of the general government worsens the deficit by 0.3% of GDP in 1995.

21. With the revision the moment of registration of taxes and social contributions has changed. After revision, all taxes and social contributions are recorded on a transaction basis. Before revision, current taxes on income and wealth were recorded on a cash basis. Taxes on production and social contributions were already recorded on a transaction basis. The effect of this change is an upward adjustment of government deficit by 0.1% of GDP.

Table 4
Government deficit and debt, 1995

	1995
	% GDP
Government deficit before revision	4.0
Adjustments	0.2
because of transfer of units	0.3
because of changed registration of taxes and contributions	0.1
because of other changes	0.0
because of the increase of the GDP	-0.2
Government deficit after revision	4.2
Government debt before revision	78.8
Adjustments	-1.9
Government debt after revision	76.9

22. Finally, the positive adjustment of GDP itself has an effect on government deficit as a percentage of GDP of course: the so called "denominator effect". Because of the increase of GDP, government deficit has decreased by 0.2% of GDP. Government debt has decreased by 1.9% of GDP to 76.9%. This is mainly due to the "denominator effect". The change in the definition of general government has only a minor positive effect.

3. Some issues in relation to the implementation of the 1995 revision

23. Revising national accounts is a long and strenuous process. As the national accounts are a system of interrelated transactions, which in the end should all be consistent with each other, it heavily draws on good communication between the people involved. This is not only true for the communication within the department of national accounts, but also for the communication between national accountants and those responsible for the source statistics. In respect of the latter, it is, for example, important to have a discussion on changes in surveys several years in advance of the revision, in order to get the data needed for the implementation of the new guidelines. A good organisation and co-ordination therefore is essential for a successful implementation of the revision.

24. In order to have a smooth revision process, in 1994 a first inventory of all changes to be implemented at the 1995 revision was made. On the basis of this inventory, several project groups were formed. Each of the project groups, consisting of the specialists involved, was responsible for sorting out things in relation to the changes in a certain area, e.g. actual consumption, dual accounting, intangible assets, etc. Furthermore, a "central project group" was created consisting of representatives from labour accounts and from each major field within the system of national accounts (sector accounts, output, expenditure, integration of supply and use). Among others, this group was responsible for the overall co-ordination and the consistency of the proposals with the international guidelines.

25. Furthermore, in the previous revision of national accounts (base year 1987), the whole system was turned upside down at once: changes in definitions and classifications, introduction of new source data and estimation methods, change from input-output tables to supply and use tables as the integrating framework for goods and services, and introduction of a new automation system. As a consequence, it showed to be impossible to keep track of all the changes in the data, and in a very late stage it had to be decided to postpone the publication of revised data with one full year. Therefore, it was decided to limit the extent of the 1995 revision to changes as a consequence of the introduction of the new international guidelines, and the introduction of new data sources and calculation methods, and to introduce the new international classifications of industries and product groups before the 1995 revision, i.e. using 1993 as a base year.

26. In the end, the above certainly did contribute to the success of the 1995 revision. A very useful result in this respect was the compilation of a complete database in which each of the various changes has been recorded for output, intermediate consumption and (components) of value added broken down by industry. As a consequence, changes in data could be tracked much better. On the other hand however, the final stages of the revision process were more hectic than hoped for in an earlier stage. In a late stage, several things had to be sorted out, and all kinds of unexpected problems had to be solved. Also, the pre-integration of provisional revised data on goods and services in the beginning of 1998 was less successful than expected, mainly because revised data for several industries were not yet available and many conceptual issues still had to be sorted out. On the other hand, the pre-integration did draw attention to some problematic areas in the consistency between supply and use.

27. In relation to the actual implementation of the revision, nearly all goals could be achieved. First of all, to the best of our knowledge, the Dutch system of national accounts is now in accordance with the 1993 SNA and the 1995 ESA. Furthermore, data on employment and compensation of employees in the national accounts are fully integrated with the relevant data in the labour accounts. In fact, the labour accounts including breakdowns by gender, level of education, etc. are now an integral part of the national accounts publication. Also the relationship with other source statistics could be improved, e.g. the integration of energy statistics (see also paragraph 8). Last but not least, the revision project has been completed on the dates as planned.

28. Looking closer at the alignment with the new international guidelines, a major exception is as yet the compilation of a complete set of balance sheets for institutional sectors. In particular, it was not yet possible to compile reliable estimates for some non-produced assets, such as land. This project, however, we hope to finalise in the near future. Furthermore, the guidelines on intangible fixed assets (software, originals, and mineral exploration) were difficult to implement in practice. In business accounting, these expenditures are usually registered as part of current costs and not as capital formation. As a consequence, most source statistics do not contain specific information on gross fixed capital formation in these assets. Also from the Statistics on Capital Formation, this information could not be derived. Fortunately, we had at our disposal the Automation Statistics to estimate software. However, these statistics did not contain enough information to make solid estimates of own account production of software. Here, we had to rely on wage costs for staff involved in the development of software. In addition to produced intangible assets, the information on sales and purchases of non-produced assets is quite scarce.

29. Another goal of the 1995 revision was the complete removal of all statistical discrepancies between net lending according to the capital account on the one hand and net lending according to the financial account on the other hand. In particular, the accounts for non-financial corporations and households contained rather large discrepancies before revision, positive for the former sector and negative for the latter sector. In the 1995 revision, the statistical discrepancies could be reduced significantly, in particular for non-financial corporations. However, they still are not nil, and further research is needed here.

30. An important demand from users of national accounts data is the availability of long time series of good quality and sufficient detail. Revising the system of national accounts is in contradiction with this demand, at least in the short term. Furthermore, as capital stock and consumption of fixed capital are calculated using the perpetual inventory method, long time series of revised data on fixed capital formation by industry and type of asset are needed right away to revise these items. Also for the purpose of seasonal adjustment, time series data on the aggregates included in the quarterly accounts need to be estimated at very short notice.

31. In meeting the demand of our users, there is a strong tension between timeliness on the one hand, and quality and detail on the other hand. To improve the timeliness, a new method for the calculation of time series data has been developed, the so-called "benchmark/interpolation method". In this method, all changes due to the revision are estimated at a detailed level for certain benchmark years, whereas the data for the years in between benchmark years are derived by interpolation using data before revision. Detailed supply and use tables are used as an integrating framework. For a more detailed explanation, see also Bakker, Gert den, and Robert van Rooijen, 1999. However, as we also give high priority to quality and detail, the results for the period 1987-1994 and the

period 1969-1986 will not become available before the end of 2000 and the end of 2001, respectively.

32. For the calculation of capital stock and consumption of fixed capital, provisional time series data on fixed capital formation have been derived mainly by extrapolation. In addition, (non-integrated) time series data have been estimated for the newly introduced assets, such as software, originals and military durables. For the purpose of seasonal adjustment, provisional time series data have been calculated in November 1999. Here again, extrapolation is the main technique. The results from this latter exercise have been published in Bui van, Hao, and Gert Buiten, 1999.

33. An important aspect of a revision is good communication with the users. In this respect, the following was planned (and up to now realised):

- a. First public announcement in August 1998.
- b. Press conference on 27 April 1999. At this conference two papers were presented, one on the changes in main national accounts data, and one on the changes in important policy indicators.
- c. Meeting with people involved in the preparation of government policy (Ministries, Central Bank, government modellers, etc.) on 28 April 1999.
- d. Publication of the National Accounts 1998, containing revised data for 1995 up to and including 1998 (both in guilders and Euro), in September 1999. Together with this publication, a publication of 80 pages containing a detailed description of the changes due to the 1995 revision is published.
- e. Publication of revised quarterly accounts from 1995 up to the second quarter of 1999 in October 1999.
- f. Publication of several, mainly Dutch papers on different aspects of the 1995 revision in the end of 1999 and the beginning of 2000.

In addition to that, several extensive information sessions have been held with our main users, such as the government modelling agency and the Ministry of Finance. To inform employees of Statistics Netherlands, lectures on the results were held in May 1999.

34. Finally, achieving international comparability of macro-economic data can be considered as the main goal of international guidelines. In this respect, the introduction of the 1993 SNA and the 1995 ESA is a major step forward. Within the European Union, the international comparability has also been enhanced by the work of the GNP-committee. Although there may be some drawbacks from the administrative use of national accounts data, it has certainly exerted an enormous stimulus on the progress made in the field of international comparability. The EU-research project on volume measurement should also be mentioned here. On the other hand, looking at the implementation of the new international guidelines, one can only conclude that there is still room for improvement. An example may be the calculation of consumption of fixed capital on public infrastructure. The adjustment due to this change ranges from 0.2 percentage-points of GDP in the United Kingdom to 1.4 percentage-points in The Netherlands. Apart from actual differences between countries, it may be assumed that this is also caused by e.g. major differences in expected service lives of

public infrastructure (ranging from 30 years in France to 70 years in Finland and the United Kingdom). Another example for further improvement of international comparability may be the estimation of gross fixed capital formation in intangible fixed assets; in particular those produced on own account.

Annex: Short description of the major changes due to the revision of the Dutch national accounts

Below, the major changes due to the revision of the Dutch national accounts are shortly discussed. Only the most important aspects in relation to the production process are dealt with here. Furthermore, no attention is paid to all kinds of changes in the sector accounts. The numbers of the items discussed relate to table 1 in the main text. For a more detailed analysis of the first 23 items, reference can be made to the Commission Decision, which was published, in Official Journal No L75 of 15 March 1997. Finally, usually reference is made to ESA 1995 instead of SNA 1993. As both guidelines are in principle consistent with each other, the latter may replace the former.

1. Change in residence criterion of installation and construction activities abroad

According to the 1995 ESA, construction activities constituting gross fixed capital formation, performed in country B by corporations or quasi-corporations resident in country A, are always to be considered as output in country B regardless of the extent of duration. On the other hand, installation activity abroad should always be registered in the country of origin. The 1979 ESA gives no explicit guidance on this subject, and it has to be assumed that the one-year rule is relevant for the residence of the production. For The Netherlands this change has no consequences. The activities in foreign countries by Dutch corporations mainly concern services of engineers and architects, which were already treated as resident activities. Other activities like dredging work are often subcontracted by foreign corporations to Dutch enterprises.

2. Financial intermediation services indirectly measured (FISIM)

Financial intermediation services, which are not paid for directly via charges but indirectly via interest margins (i.e. the difference between the lending and the borrowing rate of interest), will for the time being continue to be recorded in the national accounts as intermediate consumption of a notional industry and sector. As a consequence, no change is to be recorded until a new Commission Decision will be taken in the future.

3. Change in the definition of insurance output

The new element here is that the output of non-life insurance services now also includes the revenues from the corporations' investments of insurance technical reserves. This change means that the figures are more meaningful in economic terms, in accordance with the way in which the insurance industry looks upon this activity. Due to this change, GDP has increased by 1.1 billion guilders or 0.2%.

4. Registration of reinvested earnings on foreign direct investment as property income

Foreign direct investment comprises investment in foreign enterprises where the owner's share is more than 10% of the total voting stock. According to ESA 1995, the reinvested profits of foreign direct investments are to be included in the estimates of property income flows to and from the rest of the world. In the previous national accounts, only profits actually paid to respectively received from the rest of the world were included in the distribution of income account and the rest of the world account. It should be emphasised that reinvested profits are seen as property income only in relation to foreign direct investments and not within the national economy, where they are included in the net saving of the corporation earning the profit. There is no effect on GDP, but GNP has increased by 8.1 billion guilders (1.4%) because of this adjustment.

5. Registration of interest on accrual basis

According to the 1979 ESA, interest should be recorded when it becomes due. ESA 1995 on the other hand states that interest is to be recorded as it accrues, i.e. in accordance with the concept of an effective interest rate. The quantitative effect on net property income from the rest of the world is negligible.

6. Change in time of recording of cultivated natural growth of plants

In the previous national accounts, the output value of agricultural crops was recorded as at the time of the harvest, and forestry output as on the date of felling. According to the 1995 ESA on the other hand, production is to be considered as an ongoing process of growth whereby the growth in the biological mass of plants over the period in question makes up the output of that period, which during the process of production is counted on the uses side as increases in inventories in the work-in-progress category, and when the process is completed as stocks of finished goods. When this output is sold or consumed, there is a corresponding reduction in inventories. Because of this change, GDP has increased with 0.4 billion guilders, or 0.06% of GDP.

7. Registration of software and large databases as fixed capital formation

In the previous national accounts, all purchased software other than pre-installed software supplied with hardware was registered as intermediate consumption. Pre-installed software supplied with hardware was considered as capital formation (machinery) and recorded under the capital formation together with the hardware on which it was installed. Similarly, own account production of software was considered in the previous national accounts as an ancillary service, which did not give rise to capital formation. According to ESA 1995, all purchases of software are to be considered as capital formation. Also own development of software and large databases has to be capitalised in all cases where the amounts involved are significant. Because of this, GDP has increased with 5.3 billion guilders, which is 0.8% of GDP.

8. Registration of part of military durables as fixed capital formation

Under the previous national accounts system, all purchases of durable goods by military authorities were by definition registered as intermediate consumption. According to ESA 1995, durable goods over a certain value - apart from weapons systems which, by convention, continue to be considered as intermediate consumption - are considered as capital formation in line with the rule governing all other industries. Since defence is general government non-market production, where the output value is compiled from the costs point of view, the effect on GDP is equal to the resulting change in the consumption of fixed capital, whilst government consumption changes by the amount of the difference between the reclassified purchase of goods and the change in the consumption of fixed capital. As a consequence, GDP has increased by 1.5 billion guilders, which equals 0.2% of GDP.

9. Registration of work in progress in services

In the previous national accounts, only the production of goods was considered as a process-giving rise to stocks of products consisting of work-in-progress. In contrast, the output of services was recorded in connection with the supply of the final product. According to ESA 1995, services are to be dealt with in exactly the same way as goods. In The Netherlands, there is no effect on GDP because of this change. The output of the relevant services (e.g. services of architects) was already recorded at the moment when the production occurs.

10. Registration of all mineral exploration expenditures as fixed capital formation

In the previous national accounts, all expenditures on the sinking of wells for the extraction of oil, gas, etc. that incurred prior to a decision to explore a given deposit, were regarded as intermediate consumption. Expenditures after the decision to work the deposit were recorded as gross fixed capital formation. In the

new international guidelines, all expenditures on mineral exploration are to be registered as fixed capital formation. This latter figure is thus increased by an amount corresponding to exploration expenditure prior to the decision to work the deposit and thus, in particular, includes expenditure on abortive research under gross fixed capital formation. The effect on GDP is an increase of 0.5 billion guilders, or 0.08% of GDP.

11. Introduction of consumption of fixed capital on roads, bridges, dams, etc.

In the previous national accounts, no consumption of fixed capital was calculated for public investments in roads, bridges, dams, etc., since this type of capital good was considered to have an infinite service life. According to the 1995 ESA, these fixed capital goods have a finite service life, and consequently consumption of fixed capital has to be calculated and included in the estimate of the value of government non-market output. Since roads and bridges etc. make up a large share of the capital stock of the government sector, this change in definition alone has caused a substantial upward adjustment in government consumption. The effect on the 1995 GDP is an increase of 9.2 billion guilders, which equals 1.4% of the GDP.

12. Change in registration of government licences and fees

According to ESA 1979, payments to public authorities in connection with permits and authorisations etc. are generally considered as miscellaneous current transfers or taxes when the permits are compulsory. This was the case with fees paid by households in their capacity as consumers - for passports and driving licences, for example - and safety checks etc. paid for by enterprises. According to ESA 1995, these fees are to be considered as payment for services unless the permit is granted automatically upon payment and has no connection with any check or monitoring function, or if the payment is out of proportion in relation to the cost of the checks carried out. In those cases the payments continue to be considered as taxes. In The Netherlands, this led among others to a change in the registration of waste disposal charges and passport fees. GDP has decreased with 0.4 billion guilders (0.06% of GDP) because of this change.

13. Valuation of output for own final use and output from voluntary activity

According to the 1995 ESA, wherever possible own account production should be valued including an element of operating surplus. Furthermore, in the construction of fixed assets by means of voluntary activity, an estimate for the value of labour used should be included in the value of output. No change has been recorded for the first element. The effect of the second element on GDP is an increase of 0.6 billion guilders, or 0.1%.

14. Change in the value threshold for capital goods

In the previous national accounts, all durable goods purchased by producers with an expected use in production over a period longer than one year were recorded under fixed capital formation, provided that their value exceeded a threshold of ECU 100 in 1970 prices. This threshold applied to individual orders and not to the individual goods in an order. Small purchases below the threshold were by definition considered as intermediate consumption. In ESA 1995, the value threshold for intermediate consumption was fixed at ECU 500 in 1995 prices, that is an upward shift in real terms. In The Netherlands, there is no noticeable effect on GDP.

15. Change in market/non-market criteria

In the previous national accounts system, many activities (industries) were by definition considered to be either market or non-market. For the remaining industries, a 50% criterion was used: a local kind-of-activity unit was classified as a market producer if its income from sales covered over 50% of its costs. According to ESA 1995, the 50% rule is to be applied throughout the economy regardless of the industry involved. This change in definitions means, for

example, that parts of the railway company and the Dutch Investment Bank for Developing Countries (NIO) are now considered as non-market producers. On the other hand, the Kadaster (Offices for the Registration of Land) has been reclassified from a non-market producer to a market producer. The total effect on GDP is +1.3 billion guilders (0.2%).

16. Change in the registration of subsidies

Implementing the ESA 1995 meant a few changes in definitions relating to subsidies, some of which have effects on GDP. More specifically, payments to academic hospitals are now considered as purchases of services. In addition, non-market producers can be recipients of subsidies. On balance, these changes had an increasing effect on GDP of 0.7 billion guilders, or 0.1%.

17. Registration of entertainment, literary and artistic originals as fixed capital formation

In the previous national accounts, the production of entertainment, literary and artistic originals etc. was not considered as production. Accordingly, royalty payments which authors etc. received for the right to use an original were not considered as output of services. In the new national accounts, economic transactions connected with intellectual property rights are considered as a two-stage process: first, an original work such as a book, a musical composition, or a computer program is created. This is considered as a produced intangible fixed asset, which yields a future flow of income on a par with a building or a machine. The value of the original is taken to be the present value of the expected future flow of income and is recorded as capital formation in the period in which the work was produced. Subsequently, ongoing royalty payments for the right to use the originals are considered to be sales of services produced in a process of production in which the original is included as capital stock. By analogy with other fixed assets, consumption of fixed capital is calculated for originals. The effect on GDP is an increase of 0.3 billion guilders (0.05%).

18. Change in registration of services associated with the use of entertainment, literary and artistic originals

The point at issue here is the royalty payments referred to above for the right to copy and distribute entertainment, literary and artistic originals. In the previous national accounts, these transactions were not considered as transactions relating to products but as distributive transactions in the category "income from land and intangible assets". This was the logical consequence of not considering originals to be produced assets. In the new national accounts, these royalties are considered as payments for services. The effect on GDP is an increase of 0.1 billion guilders (0.02%).

19. Introduction of a rental value for separate garages

Hitherto, the rental value of separate garages has not been included in the output value of dwellings. Garages were included only if they were part of the actual dwelling. According to ESA 1995, the rental value of separate garages is to be included in the estimate of total actual and imputed rents of dwellings. This change has increased GDP with 0.2 billion guilders, or 0.04%.

20. Change in registration of car registration taxes paid by households

According to the old European system, the ESA 1979, taxes on production could be paid only by producers and not by households in their capacity as consumers. As a consequence, car registration taxes paid by household in their capacity as consumers should not, according to the ESA 1979, be considered as taxes on products and thus included in GDP. In the ESA 1995, however, car registration taxes are to be recorded as taxes on products regardless of who pays the tax. This change has only a minor effect on Dutch GDP.

21. Change in valuation of compensation of employees in kind

In the previous system, own-produced goods supplied to employees as payment were valued at production cost, the producer's profit by convention being equal to zero. According to ESA 1995, the value is now to be estimated at basic prices, i.e. including the usual element of net operating surplus. These changes were already implemented in the Dutch national accounts, so this change does not effect GDP.

22. Change in registration of licences paid for the use of intangible non-produced assets

In the previous national accounts, payments on licences and patents were considered as distributive transactions, more precisely property income under the category "income from land and intangible assets". In the new system, they are treated as payments for services. In the rest-of-the-world account, therefore, there is an increase in exports and imports of services with a corresponding drop in property income from or to the rest of the world. This change has been included in 18 (Change in registration of services associated with the use of entertainment, literary and artistic originals).

23. Change in registration of stamp duties

According to the old European system, the 1979 ESA, stamp duties were not taxes on products, which by convention they are in every case according to the ESA 1995. This change is not relevant in The Netherlands.

24. Change in registration of R&D-activities

The expenditure for research and development ("R&D") is better presented in the new Dutch national accounts. Especially the R&D-activities of research departments of companies have become clearly visible. From now on, these activities are explicitly recorded as secondary activities of the relevant industries. As such, they produce output that is consumed by the companies themselves. In the past, these R&D activities were classified in the industry research and development, together with the separate research institutes. From now on, this industry only consists of research institutes. This change of registration does not have any consequences for the GDP estimate. However, the estimate for R&D-activities itself has increased, because of the use of new sources and insights.

25. Gross registration of services of travel companies and processing

In the past, for some activities a net registration was preferred in the national accounts. From now on, a gross registration is applied. This means that the purchases and sales are recorded for the full value. As a consequence, the true flows of money and goods in the economy are more accurately visible. First, this concerns all-in trips, which, from now on, are considered for the complete costs as a product of the travel agency or tour operator. Indeed, travel agencies compose products themselves, contrary to travel intermediaries. In the past only the margin of the travel agency was considered as the product. The payments for accommodation and transport were interpreted as direct payments by households to the catering establishments and transport companies. This change result in a shift within the consumption and between products, but on balance, it has no effect on GDP.

In addition, processing transactions to and from the rest of the world are recorded gross from now on. It concerns goods that are sent by the producer to another country for further processing, after which they are sent back to the original producer. In particular, this is common practice in manufacturing of textiles and electronics. From now on, the figures of imports and exports contain the full value of these processing deals. So far, only the balance was recorded. This change has no consequences for GDP.

26. Revision concepts of final consumption expenditure and introduction of non-profit institutions serving households

The description of final consumption expenditure has been adjusted, as a result of which a better view arises of goods and services consumed by households and paid by general government (see table 1 on the next page). In the first place, government consumption expenditure has been extended with goods and services paid by general government, but produced by others on behalf of households. This concerns for example health services. In the past, this was treated as consumption expenditure of households. These social transfers in kind involve about 50 billion guilders.

In addition, non-profit institutions serving households (NPIHHs) have been introduced as a separate institutional sector. Examples are sporting clubs, trade unions, and religious organisations, which are mainly financed by contributions, donations, and voluntary offerings of households. From now on, the services financed in this way are treated as consumption by these NPIHHs. It concerns an amount of 4 billion guilders. Only goods and services they actually sell are recorded as consumption by households. In the past these NPIHHs were not treated separately. Their output was part of the various industries and their services were treated as consumption by households.

Simultaneously, the 1995 ESA introduces an extra method of presentation for

Table 1
Summary of the adjustments

	Sector making expenditures			Total Acquisitions
	Government	NPIHHs	Households	
Individual consumption	X (= social transfers in kind)	X (= social transfers in kind)	X	Households actual final individual consumption
Collective consumption	X	0	0	Government's actual final collective consumption
Total	Government's final consumption expenditure	NPIHHs final consumption expenditure	Households final consumption expenditure	Actual final consumption = Total final consumption expenditure

final consumption: actual final consumption by households (see table 1). In this case, consumption by NPIHHs and the elements of the government consumption that can be individualised are attributed to the households. The only consumption category left is the collective consumption by general government, i.e. the consumption of services, which are collectively used by the society, such as defence, justice, etc. On balance these changes do not effect the level of GDP. They only result in a shift within the several categories of consumption expenditure.

27. Introduction of additional specifications of output and operating surplus; dual actoring

The 1995 ESA introduces a number of additional specifications. For enterprises, the balance that remains when intermediate consumption, wages and salaries, social contributions, etc. are subtracted from the output will from now on be divided in an operating surplus and a "mixed income". Mixed income is used for self-employed persons; it consists of a compensation for the work of self-employed persons and any participating family members, plus a compensation for the capital invested and a compensation for the entrepreneurial risk. The operating surplus is used for corporations etc.; it does not contain an implicit compensation for labour.

In addition, the output of industries will be specified in market output, output for own final use and other non-market output. This provides a better view of the several types of production processes.

Finally, output, intermediate consumption, and (components of) value added have been cross classified by industry and by institutional (sub) sector. As a consequence, the link between production, income generation and income distribution is described much clearer.

28. Change in registration of people working in sheltered workshops

After revision, people working in sheltered workshops are considered as employees. Before revision, they were treated as welfare recipients. As a consequence, their income is no longer registered as social benefits, but as compensation of employees. This change, which was already introduced in the so-called harmonised GDP, results in a positive effect on GDP of 3.6 billion guilders.

29. Introduction of wages and salaries in kind

In the new system of national accounts, wages and salaries in kind have been introduced. Among others, this category includes the private use of company cars, the provision of crèches by employers, reduced rates of transport tickets, and interest rebates by financial institutions. As in the case of sheltered workshops, this change was already included in the harmonised GDP. GDP has increased with 2.7 billion guilders, i.e. 0.4%.

30. Change in the valuation of output of financial institutions

In addition to the change mentioned under item 3, insurance output has been increased by 1.3 billion guilders (0.2% of GDP). Furthermore, for banking, property income from the investment of own net worth is not considered anymore as part of output. This has resulted in a substantial decrease of the imputed bank services. Other changes in banking output relate to reinvested earnings on foreign direct investment (see item 4). As these latter changes are compensated by a proportional adjustment of the consumption of imputed bank services, there is no effect on GDP.

31. Registration of valuables as capital formation

From now on, the balance of purchases and sales of paintings, jewellery and other valuables for purposes of investment is considered as capital formation. Before revision, these purchases were considered as private consumption (for households as consumers) or intermediate consumption (for enterprises). This change has resulted in an increase of GDP with 0.2 billion guilders.

32. Change in the valuation of capital formation in livestock

The method of valuation of capital formation in livestock has been adjusted. From now on, the relevant cattle is valued at entry prices (i.e. basic prices of similar livestock sold on the market) instead of at withdrawal prices (i.e. cull prices when e.g. sold to the slaughterhouse). This change has resulted in an increase of GDP with 0.6 billion guilders.

33. Change in the valuation of output of owner-occupied dwellings and houses for recreation

For the output value of owner-occupied dwellings and houses for recreation, the estimation method has been adjusted. As a consequence, the estimated output value of dwellings has been reduced and of houses for recreation it has been increased. On balance, it has resulted in a reduction of GDP by 8.4 billion guilders. This change was already included in the harmonised GDP.

34. Change in the calculation of consumption of fixed capital

The estimates for consumption of fixed capital have been changed dramatically. In total, consumption of fixed capital has been increased with 27.1 billion guilders. For the major part (17.1 billion) this is due to the extension of the concept of fixed capital formation with, among other things, software, mineral exploration expenditures and a number of purchases of durable goods by military authorities, and with the introduction of consumption of fixed capital on public infrastructure. The rest of the adjustment is due to new assumptions about the expected service lives and the discard patterns of the relevant capital goods.

35. Re-definition of financial institutions

The implementation of new insights resulted in some changes in the definition of financial institutions, especially in relation to the exploitation of real estate. From now on, exploitation of real estate by financial institutions is registered as a secondary activity of financial institutions. In the past, it was registered as part of the industry exploitation of real estate activities. Moreover, in accordance with the changes in the international guidelines, after revision, the financial institutions' industry contains some institutions, which before revision were considered as social security funds, like the so-called VUT-funds (funds for early retirement). Finally, improved estimates have been used for several classes of activities auxiliary to financial institutions, like intermediaries in mortgages and stockbrokers.

36. Re-definition of public administration

The definition and subdivision of government activities has been changed, among other things because less detailed information has become available from the source data. In particular, this means that the industry public administration contains a number of activities that in the past were registered as part of e.g. the industry recreational, cultural and sporting activities. In addition, some funds have been moved from the social security funds to financial institutions (see also paragraph 2.3 of the main text).

37. Re-definition of agriculture

The delineation of the industry agriculture has been changed. From now on, this industry only contains enterprises for which agriculture is the main activity. Also their secondary activities are included. Before revision, all agricultural activities were contained in this industry, including those performed as a secondary activity by other industries. As a consequence, the forestry activities of Dutch Forestry Commission, for example, do not belong to the industry agriculture anymore.

38. Subdivision of privatised public enterprises

For some industries the revision has been used to improve the representation of privatised public enterprises. In particular, the electricity companies, the railways, and the post and telecommunications have been privatised since the 1987 revision. In a number of cases this was accompanied by a division in several independent business units. The revision has been used to handle these units separately in the national accounts. As a result, among others things, a number of former internal supplies within a company now become explicitly visible as mutual supplies between the new units.

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Related publications (translated)

National accounts	P-2	f 85,00
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All these publications are in Dutch only, except for the Quarterly accounts on diskette and the National accounts

A large number of the above mentioned publications can be consulted in the libraries of Statistics Netherlands at Voorburg (direct line +31 70 337 5151) or Heerlen (direct line +31 45 570 71 87).

List of occasional papers

The list below will give an impression of the subjects covered in previously published Occasional papers. A complete list of all available Occasional papers can be obtained from the National accounts information desk (telephone 31 70 337 58 76; fax 31 70 337 59 81; e-mail infopni@cbs.nl). The price of a single issue comes to Dfl. 20.00. For an annual subscription of at least six issues the costs amount to Dfl. 100.00.

NA/84 The future of the national accounts, Bos, Frits (1996).

This paper investigates the consequences of globalisation, European unification, automation and more market-oriented government for the national accounts as a central international overview-statistic on national economies. The perspective on the future is a mixture of exploiting present and new potentials and coping well with dangers.

NA/85 Accounting for the use of financial capital as an input in production; with an application to multi-factor productivity change estimation, Keuning, Steven J. and Ted Reininga (1997).

It is increasingly acknowledged that the financial structure of a firm is an important determinant of its economic activity. Therefore, the use of financial capital should be seen as a separate input in the production process. This paper attempts to operationalise a meso-economic measurement of financial capital inputs in production and shows the consequences for the estimation of multi-factor productivity change. This approach establishes a much closer relationship of macro-economic accounting and analysis to business economics

NA/86 Volume measurement of government output; the Dutch practice since revision 1987, Kazemier, Brugt (1997).

In 1992, Statistics Netherlands published the first results of a major revision of national accounts statistics. Part of this revision was the introduction of an alternative method to estimate the volume change of government output. This paper briefly describes this alternative method and the results of the revision with respect to the volume change of government services.

NA/87 Chain indices in the national accounts: the Dutch experience, Boer, Sake de, Jan van Dalen and Piet Verbiest (1997).

In this paper we discuss the use of chain indices in the Netherlands. In Dutch practice chain indices are applied from 1980 onwards. Chain indices are a good base for the construction of economic models, since changing weights guarantee a near approximation of actual developments and the actual economic structure. However, special attention should be paid to the tuning of the model to the characteristics of the data and to the presentation of model results to the public.

NA/88 Measurement and valuation of natural gas and oil reserves in the Netherlands, Pommée, Marcel (1998).

This paper discusses some conceptual and methodological issues related to the estimation of reserves of natural gas and oil. The first section focuses on these subsoil assets in relation to the 1993 SNA. The second section deals with the situation and valuation of these assets in the Netherlands. The valuation method applied may be of special interest because of its simplicity and modest data requirements.

NA/89 Data constructors and data users can co-operate: an illustrative case study, Jacobs, Jan, Jan-Egbert Sturm and Peter Groote (1999).

This paper illustrates the benefits of communication and co-operation between data using macroeconomists and data constructing historians by describing a joint research project on the effects of infrastructure investments on the economy in the Netherlands in the second half of the nineteenth century. The case study shows that co-operation can be fruitful and may lead to new insights for both groups.

NA/90 Measuring Well-being with an integrated System of Economic and Social Accounts: An Application of the SESAME Approach to the Netherlands, Kazemier, Brugt, Steven Keuning and Peter van de Ven (1999).

This paper contains a pilot application to the Netherlands of the socio-demographic module of SESAME: the modular statistical information system that serves to enable an integrated measurement of welfare. From this module the inactive/active ratio can be derived; an indicator of the welfare state that plays quite an important role in social-economic policy.

