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THE DUTCH ECONOMY, 1921-1939 AND 1969-1985

A comparison based on revised macro-economic data for the interwar period

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Summary

A set of revised macro-economic time series for the Netherlands 1921-1939 is presented. The series cover the accounts for the nation of the SNA in current prices as well as the national product account and some additional series in prices of the previous year. For purposes of comparison, the corresponding 1969-1985 series are also given. The new interwar 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 and of the effectiveness of economic policies in that period has to be revised. In contrast with traditional news, the persistence in preserving the gold standard appears to have been beneficial on balance. The eventual (forced) dropping of the gold in september 1936 seems to have had considerable inflationary effects and to have contributed to a recession in 1938 that was far deeper than in the other European countries. Government spending and the budget surplus/deficit were, in contrast to the traditional views of economic historians, not conservative but moderately Keynesian. Contrary to traditional views, economic recovery in the Netherlands was neither slower nor weaker than in the rest of the world.

Contents

1. Introduction

1.1 Purpose of the revision

The traditional view of Dutch macro-economic developments and of the country's economic policies in the period between the wars is rather negative. The twenties are viewed as a period where prosperity was more apparent than real. The economic decline of the early 1930's is, in the verbal descriptions, thought to have led to an enormous fall in production. The presumed cause of the depression, the collapse of world trade induced by protectionism, is judged to have been reinforced by the economic policies followed from 1933 onwards: a rigid policy of fixed exchange rates cutting the budget and putting a downward pressure on wages and prices. The prevailing view is that these policies have caused the recovery in the Netherlands to lag behind and to be weaker than that in other countries. Only after the government was forced, in the autumn of 1936, to take the guilder off the gold standard, recovery is thought to have begun. But, the traditional narrative goes on, because the tight budget policy was maintained even after 1936, recovery remained fairly weak and only after the second world war any true improvement began.

The past few years, this traditional view has come to be reconsidered. There is considerable media attention for the 1930's and the general judgment of the period's policies is less severe. This reconsideration appears to have been induced by recent economic experiences. At the end of the 1970's, a depression began that turned out to be far less tractable than the optimistic Keynesian economists of the fifties and sixties would have thought possible. This leads to a more understanding view of the policies of the thirties and, at the same time, to a greater demand for reliable information on the period, since this might shed new light on the current economic problems.

So far, a comparison of macro-economic develcpments in the thirties with those in the recent past was hampered by the lack of adequate data for the former period. Published national accounting data for the twenties and thirties (to be described in the second part of the present section) are inadequate for purposes of comparison: there are too many conceptual differences with the data for the recent past; there are considerable differences in statistical methodology; and the pre-war data are incomplete and insufficiently detailed.

For these reasons, a revision of the historical series for 1921-1939 has been carried out at the Netherlands Central Bureau of Statistics, in order to obtain data that are consistent with those for the period from 1969 onwards. A summary description of this revision is provided in section 1.2 and a more detailed one in section 2. The macro-economic developments that are brought out by the new series are discussed in section 3 and summarized in section 1.3. First, however, we shall provide a more detailed survey of the data published until now.

The CBS regularly publishes long historical series in both the annual national accounts publication and in the five-yearly publications' x years of statistics in time series'. These publications provide data, from 1900 onward, on the national income, both at factor cost and at market prices. For the latter variable, price and volume data are also provided. From 1921 onward, current-price data are given for: net domestic product, imports and exports of goods, private consumption, net private investment and changes in stocks; and net government expenditure, the latter without a breakdown into consumption and investment. Finally, net exports of services are shown.

These published data were, in part, compiled in the 1950's in a joint research project of the Central Planning Bureau and the CBS, financed by 'ZWO', the Dutch foundation for 'Zuiver Wetenschapelijk Onderzoek' (Pure Scientific Research). We shall refer to these series as 'ZWO series'. A considerable number of series were compiled for 1921-1938. Part of these have been used in the construction of the econometric models of the Central Planning Bureau until the mid-seventies. Informally, the Central Planning Bureau also provided a part of the series to academic researchers. But no proper publication of all the series compiled and of the methods employed has been put into print.

The ZWO material consists of series for both macro-economic variables and breakdowns of the latter. In addition to the series published by the CBS, the macro-economic variables are: government wages; non-goverment wages; enterprises' operating surplus; consumption of fixed capital by enterprises; changes in stocks. The detailed series, which never left the archives of the Central Planning Bureau and the CBS, provide breakdowns of the aggregates, such as investments, by type of asset. For most variables, price and volume series were compiled in addition to the current price series.

Both the published series and the unpublished ZWO series are afflicted with a number of shortcomings. Firstly, the series are incomplete in the sense that, e.g., the 'Consolidated accounts for the Nation' of the SNA cannot be completely drawn-up from them. Thus, government consumption and investment were not compiled separately, no consumption of fixed capital was calculated for government, imports and exports of services are not specified separately, no current account with the rest of the world can be compiled because a number of capital transfers have been combined with the net income transfers to the rest of the world. All this is true of the unpublished series. The published series are even more incomplete, cf. the inventory provided above. Thus, from the published data it is not even possible to compile a gross domestic product.

A second shortcoming of the available series is that they are conceptually inconsistent with the series for recent years. To provide some examples:

- no distinction is made between domestic and national private consumption.
- the concept of consumption of fixed capital employed implicitly in the series is the one underlying depreciation data in enterprise accounts. For 1921-1938 this mainly amounts to valuation at historical instead of current prices.
- price and volume series were compiled employing Fisher indices instead of the Paasche-Laspeyres pair currently in use.

A third drawback of the series is that values of the variables are, to some extent, incomparable with the values for recent years because of differences in statistical methodology. A major example of such a difference is the method of calculation of national income. Since the second world war, the CBS employs the commodity-flow method, an elaborated version of the net production method. For the 1921-1939 period, national income was estimated separately by means of the income method and the net production method; the average of the two was adopted as final estimate. The ZWO series just supplemented - and slightly improved on - these original CBS estimates of national income for 1921-1939. The earliest estimates for the years until 1936 had been compiled by Derksen by the end of the thirties; the final series was published in 1948 and is an important source for the revision:

CBS (1948) 'Het nationale inkomen van Nederland, 1921-1939', No. 7 der Monografieën van de Nederlandse conjunctuur. ('The national income of the

Netherlands, 1921-1939', Monograph No. 7 on the Dutch business cycle'). We shall refer to this source as Mon. 7. An important additional source contains detailed data for 1938, based on the first input-output table ever compiled for the Netherlands:

CBS (1950) 'De Nationale Jaarrekeningen; doeleinden, problemen, resultaten' (The National accounts, purposes, problems, results).

1.2 Revision of the historical series

In the revision of the 1921-1939 data, the concepts and methods that are in current use have been employed as far as ever possible. Moreover, additional series have been compiled in order to be able to draw-up the SNA 'Consolidated accounts for the nation'. One example of a change in method is that the national income is now fully compiled by means of the net production method. Two examples of conceptual changes are: a recalculation of consumption of fixed capital by means of the perpetual inventory method; and a recalculation of price and volume indices by means of a Paasche-Laspeyres pair. Examples of variables for which data have been compiled for the first time are: government investment; government consumption of fixed capital; exports of services; imports of services; income transfers to the rest of the world, income transfers from the rest of the world.

In addition to these examples of major changes it should be emphasized that many of the series have been revised in a minor way; the combination of these changes leads to both upward and downward corrections of variables like the domestic product. Table 1.1 shows some differences between the revised and the original ZWO/CBS data. On balance, net national and domestic product are revised upward, whereas the gross versions (that were not published but were computed in the ZWO project and circulated informally) were revised downwards, GDP at market prices by some 4%, on average. These contrasting adjustments of net and gross variables are due to a correction of a major inconsistency in the ZWO data. This inconsistency concerns the treatment of fixed capital. In the original CBS national income computation a gross concept was correctly calculated but not explicitly so; in the course of the calculation consumption of fixed capital was implicitly subtracted, yielding a net national income. Next, however, ZWO added an autonomous estimate of consumption of fixed capital to the CBS net income, in order to arrive at a gross concept. Consequently,

the ZWO gross product was effectively obtained by starting out from a correct gross concept, deducting one value for consumption of fixed capital and adding another one!

Table 1.1 Some differences between revised data and the original ZWO/CBS data (average annual differences in values, as a percentage of ZWO/CBS values)

	1921-29	1930-38	1921-38
Net domestic product at market prices	2.6	2.2	2.4
Gross domestic product at market prices	-4.9	-2.6	-3.8

Table 1.2 shows the impact of the revision on the volume of national income, both net and gross. Growth from 1921 to 1938 after revision exceeds the pre-revision estimate in the net case by 6%, in the gross case the increase is some 8%.

Table 1.2 Volume indices of national income in 1921 before and after revision, 1938=100

	Before revision	After revision
Net national income at market prices	72.6	68.5
Gross national income at market prices	73.5	67.8

1.3 Summary of conclusions on macro-economic developments

Section 3 provides a detailed discussion of the macro-economic developments shown by the new data, as well as a comparison with developments in the 1969-85

period. It turns out that the impression as though there was not much economic growth in the interwar period is mistaken: on average, real GDP growth was 2.7%, as compared to 2.4% in the 1969-85 period. Growth in the twenties was very fast, faster even than in the fifties and only barely slower than in the sixties. Even if the thirties are considered separately, there still was 1% real GDP growth. Economic recovery in the second half of the thirties was more pronounced than what is now expected for the second half of the eighties: GDP grew by an average 3.6%. Nor was Dutch economic performance in the thirties worse than that abroad: GDP growth was on average equal to that of the OECD as a whole; in contrast, Dutch economic growth in the eighties is, so far, below the OECD and EC averages.

A striking difference between the depressions of the early thirties and the early eighties concerns the movement of the components of final expenditure. In the first half of the thirties, the volume of exports declined sharply; the same applied to the ratio of the value of exports to GDP. Even in the second part of the thirties, volume growth of exports was slower than that of GDP. In the eighties, in contrast, the value and volume of exports continued growing; and they grew faster than the value and volume of GDP, respectively. In case of private consumption, the picture is reversed. In the first half of the thirties the volume of consumption grew, in the second part of this decade this growth even accelerated somewhat. As opposed to this, the eighties so far are characterized by an average negative growth of the volume of private consumption. Developments with respect to government expenditure also differ between the two depression periods. In the thirties, the level of government expenditure as percentage of the GDP exceeded its value in the 1925-29 period, whereas the level in 1980-85 was below that in the 1975-79 period. The difference is particularly striking in case of government investments: in the thirties these were at a historically high level (as percentage of GDP), in the eighties they were lower than in any peacetime period since the end of the first world war. Put succinctly: in the thirties private consumption and government expenditure moved upward, exports downward; in the eighties it was the other way around.

For the interwar period as a whole, the contribution of income from the East Indies to the current account of the balance of payments was of the same size as that of natural oil and gas proceeds in the 1969-85 period. An aggravating factor in the depression of the early thirties was the virtual disappearance of

income from the Dutch East Indies; in contrast, the impact of the depression of the early eighties on the current account of the balance of payments was alleviated by rising proceeds from exports of natural gas.

It is at least debatable whether the retaining of the gold standard in the early thirties was a mistake. Well ahead of the devaluation that eventually occurred in September 1936, economic growth had resumed and a surplus on the current account of the balance of payments had been achieved. The devaluation, when it occurred, appears to have had a negative impact on the economy: an excessively deep recession in 1938 and a high inflation.

The relatively high level of government expenditure in the thirties was maintained with a fairly low budget deficit of central government: 2.2% of GDP in 1930-34 and 0.9% in 1935-39. In the interwar period as a whole, the movement of the budget deficit/surplus was moderately Keynesian; in the seventies and eighties the deficit simply grew, with just a minor interruption in 1973, until it was checked in the mid-eighties.

This summary shows that the traditional view on the Dutch economy and Dutch economic policies in the interwar period needs to be modified. The economic policies of the thirties were moderately Keynesian rather than hard-line conservative. The exchange rate policy contributed to maintaining the standard of living in the early thirties and does not seem to have obstructed strong economic recovery in the mid-thirties. The proposition as though Dutch economic performance in the thirties was worse than that abroad is simply wrong. This revision of the historical picture of the interwar years is not merely induced by the revision of the data. The analysis of national accounting data as such (i.e., whether or not revised) already leads to a picture that diverges from the conventional one. The latter was based on fragmentary data and had an impressionistic nature. This type of economic history, however illustrative it may be, turns out to be unreliable. This leads to a confirmation that a cliometric approach is called for. The cliometric approach was introduced at two joint meetings of the (American) Conference on Income and Wealth and the Economic History Association (cf. Engerman and Gallman, 1986). Two types of techniques are applied: econometric analysis of historical data on the one hand, and compilation and analysis of historical national accounts on the other. Our study is an example of the latter technique. Our results vindicate the view that economic-historical

analysis without national accounting data is apt to distort what actually happened.

2. The revision of the interwar series

2.1 Main differences between pre- and post-revision data

In the introduction we already gave some highlights of the revision; the present section provides more details. The basic differences between the original ZWO/CBS data and the revised series are, for 1938, shown in Table 2.1.

Table 2.1 Pre- and post-revision aggregate data, 1938, millions of guilders

	1	2	3	4	5	6	7
1. Net domestic product at factor cost	4502	-35	4467		4467	+107	4574
2. Net primary income from the rest of the world	402		402	-45	357		357
3. Net national income at factor cost	4904	-35	4869	-45	4824	+107	4931
4. Consumption of fixed capital, enterprises					492	-107	385
5. Consumption of fixed capital, government					19		19
6. Gross national product at factor cost					5335		5335
7. Indirect taxes less subsidies					491	- 23	468
8. Gross national product at market prices					5826	- 23	5803

Column 1: according to Mon. 7
2: correction for shift to the net production method
3: sum of columns 1 and 2
4: correction for secondary income from and capital transfers with the

rest of the world

5: sum of columns 3 and 4

6: corrections for consumption of fixed capital and subsidies

7: sum of columns 5 and 6.

In Mon. 7 the CBS determined the net national income at factor cost as the arithmetic average of the result of the income method and that of the net production method. This average was not altered in the ZWO project. In table 2.1 it is shown in column 1, row 3. In the revision, the first step was to shift to the net production method. The correction is shown in column 2. For each of the years 1921-39 this correction was obtained from Mon. 7. For the period as a whole the correction averages out to nought, implying that no systematic shift in the level of the data has been caused by the shift to the net production method.

The national income according to the net production method is now shown in column 3, row 3. In the row above it, net primary income from the rest of the world is given. This consists of net compensation of employees and net property and entrepreneurial income from abroad. Consequently, the first row of the table shows the net domestic product at factor cost. However, ZWO's net primary income from the rest of the world contains some secondary income flows (notably pensions of government personnel from the Netherlands East Indies) and capital flows (e.g. transfers to pension funds from the East Indies budget in re of East Indies civilian and military government personnel in the Netherlands). In the revision we have corrected for these items, employing data from Mon. 7 and unpublished data from the CBS archives. The correction is shown in column 4, the resulting net national income at factor cost in column 5, (row 3), along with the corresponding net domestic product (row 1).

Actually, the net national income of Mon. 7 has been calculated from a gross concept, by deducting the depreciation figures employed in enterprise accounts. This deduction has been done implicitly, because depreciation has been combined with some other costs. Thus, the Mon. 7 compilation according to the net production method calculated value added as output less costs. For most industries, costs included depreciation; frequently, costs were available at the industry level as a single item only; hence no separate data for gross and net value added were obtained but a net figure only. However, the consumption of fixed capital data that has, by this procedure, been implicitly

used, does not fit into the modern concepts: valuation is at historical instead of current prices. To remedy this, the implicit consumption of fixed capital has been reconstructed in the present revision (cf. column 5, row 4 of table 2.1) in order to be able to calculate the (implicit) original gross value added. The data have been taken from 'structure of industrial costs' reports that had been drawn-up in the twenties and thirties for many industries mainly by accountants, or by the CBS iself. These reports had been one of the major sources of data on costs in the Mon. 7 compilations. Parts of the reports were confidential and were never published.

A second correction necessary to obtain a conceptually modern estimate of gross national product concerns government consumption of fixed capital. In Mon. 7 government production was defined net. In the revision we added consumption of fixed capital. The item was estimated, employing the empirical post-war relation between the value of this item and government consumption: the former is a steady 4% of the latter. The correction is displayed in the fifth row of column 5. The sixth row shows the resulting gross national product at factor cost. This value has been used as the 'fixed point' in the revision.

In order to calculate a correct net value from this 'reconstructed' gross one, consumption of fixed capital has to be determined according to modern concepts. This is shown in column 7. First, of course, government consumption of fixed capital has to be deducted (row 5), next that of enterprises (row 4). The latter has been calculated according to the perpetual inventory method (PIM). In fact, the PIM was applied backwards, starting in 1938: for that year the CBS (1947) had calculated the national wealth, including the stock of capital goods. Using unpublished data from the CBS archives, the latter could be broken down into four types of assets: dwellings, other buildings, ships and other fixed assets. Current average economic lifetime data were applied to these. Investments in each of these types of assets were available in the ZWO series, both in current and in constant prices, so that the backward calculation to 1921 was feasible. The resulting values for consumption of fixed capital are somewhat lower, though not dramatically, than the implicit depreciation values of Mon. 7, cf. column 6 of table 2.1. As a consequence, net national income after revision exceeds the original figure, cf. column 7, row 3. Naturaly, the same applies for net domestic product (column 7, row 1).

The last two rows of table 2.1 show the derivation of the revised GNP at market

prices. For this derivation indirect taxes less subsidies have, of course, to be known. Column 5, row 7 shows the original CBS value of this item, row 8 the GNP at market prices that would be generated by the ZWO estimate. However, the former estimate of the indirect taxes less subsidies item has been corrected in the revision (cf. column 6), viz. for subsidies to the railroads, ship-building and shipping companies that had been overlooked by ZWO. Data have been obtained from annual reports of the enterprises concerned and from publications like company historical annuals published on occasions like centennials.

The derivation shown in table 2.1 yields, for each year of the 1921-39 period, aggregate value added (both gross and net). In order to be able to draw-up the complete SNA accounts for the nation, these aggregate values have to be broken down, both according to the government/enterprises division and according to its components (wages, operating surplus, etc.) The way this breakdown has been achieved is explained in the subsequent sections.

2.2 Government value added

Table 2.1 already demonstrated the derivation of net domestic product at factor cost. Of this aggregate, government net value added at factor cost consists of wages and social charges only. To calculate these, the pertinent data published in Mon. 7 have been employed. The ZWO project did likewise. However, a number of corrections have been made:

- Wages in education have been added to those of government (ZWO did so too).
- Wages in a number of government establishments like musea, libraries, public works departments, garbage collection have been added to government wages (ZWO did so only partially). Data were taken from statistics on and reports of social insurance institutions.
- A number of corrections for other groups of government personnel and for some categories of income that had been misclassified in Mon. 7. (Again ZWO applied only a part of these corrections).
- Finally, a breakdown was made into wages on the one hand and social charges on the other. This breakdown, which ZWO did not attempt to make, was based on the data from Mon. 7, Mon. 8 and from the CBS archives.

It should be emphasized that each of these corrections involves shifts of value added between government and enterprises only; hence, the net domestic product

is not affected by them, only its distribution between government and enterprises.

2.3 Value added of enterprises

Having determined both the net domestic product at factor cost and government net value added, the net value added at factor cost of enterprises is also fixed. In order to provide a reliable breakdown of the latter into its components, the distribution of value added over industries should be known. This distribution is provided by Mon. 7 for the whole period 1921-39; by means of the 1938 data from Mon. 8 this industry-by-industry breakdown can be linked to the Mon.7 data. To obtain this link, unpublished data from the CBS archives were employed. Once the industrial breakdown of value added had been obtained the latter was broken down in its components. To the resulting data some corrections had to be made:

- Pension flows from the rest of the world (in particular Dutch East Indies) were removed from social charges since they should be classified as capital transfers. Data were taken from Mon. 7.
- For hotels, restaurants, cafe's as well as for shipping wages were raised. This correction was made because of incomplete coverage of the ZWO estimates. Data were taken from 'cost reports' and reports of special investigations. For banking and insurances Mon. 7 did not provide data on wages and social charges, but these could be derived from unpublished data in the archives.
- Part of wages has been transferred to social charges.

Once wages and social charges has been obtained, operating surplus (net) was found as a balancing item.

2.4 Economic relations with the rest of the world

Data for three groups of flows with the rest of the world have been revised: foreign trade in goods, foreign trade in services and income fows. Foreign trade in goods had already been revised in the ZWO project. The ZWO revision was based on CBS foreign trade statistics and the CBS (1945) balance of

payments estimates for 1930-39. These data were supplemented by imputations for postal parcels and diamond trade, which were fairly substantial in the interwar period. In the current revision, estimates for trade in silver were added.

Foreign trade in services was not explicitly determined by ZWO. Instead, the concept 'net invisibles' was employed; it included the balance of trade in services and that of income and capital flows to and from the rest of the world. In the current revision these groups of flows have been separated and deconsolidated. In case of services, the balance of payments data, referred to above, for 1930-39 were employed; for the twenties the 1930 values were extrapolated. The primary and secondary income flows to and from the rest of the world have been deconsolidated on the basis of unpublished data underlying Mon. 7.

2.5 Final expenditure

Detailed private final consumption data for 1923-39 were compiled by the CBS (1949). These were employed by ZWO; estimates for 1921 and 1922 were added. In the revision three corrections were made:

- a number of categories of expenditure that are now considered as income transactions were removed from consumption.
- the values of consumption of 'other goods and services' were adjusted; the original annual changes of this series were too violent to be plausible.
- expenditure of residents abroad and of non-residents in the Netherlands were estimated (also cf. foreign trade in services, section 2.4). This made it possible to derive both national and domestic private consumption.

Government consumption and investment were not explicitly determined by ZWO. In the revision, total government expenditure was broken down into consumption and investment, employing the data underlying the ZWO series, additional data from the archives and data on social insurances. In addition, some adjustments were made of government investment, particularly in respect of own account investments (including employment programs) and investments in government buildings. Gross investments in fixed assets by enterprises were, in the ZWO project, derived as a balancing item: first, total investment was determined on

the basis of data on production, imports and exports of investment goods. Sources were CBS production surveys and foreign trade statistics, as well as unpublished data from the Ministry of Housing. Next, ZWO determined government investments and investment of government enterprises; investment of private enterprises then resulted as a balancing item. Essentially the same procedure was followed in the current revision. Total investments according to ZWO were the point of departure; the revised government investments were deducted in order to yield gross private investment. The latter's value was corrected for changes in livestock: in the ZWO total, all changes in livestock were considered as investment, whereas in the current national accounts a part is considered as change in stocks.

Consequently, we now have imports, exports, private consumption and investment, government consumption and investment. Since value added is a fixed point, changes in stocks are the balancing item. In the ZWO project they were so too. Unfortunately, there are no direct observations of stocks with which the indirectly derived value could be compared. Instead, we can only employ some simple plausibility checks to judge the relative merits of the ZWO and the revised changes in stocks. In the 1921-38 period as a whole, ZWO obtained a substantial increase in stocks. This is an implausible result, because there was a considerable and fairly regular decline in prices throughout the interwar period; only in a few years prices rose. In a period of falling prices, entrepreneurs usually cut-down on the value of their stocks. Hence the increases in stocks found by ZWO were probably not correct. In contrast, the revised stock data display a decline of stocks over the period as a whole; to be fair it should be added that the total value of the decline is a bit higher than we would have liked. Possibly one explanation is that in 1938/39 the government purchased very sizeable stocks in anticipation of the second world war; these show-up as government consumption instead of changes in stocks. Another plausibility check was made: the change in stock data were compared with those predicted by econometric equations the Central Planning Bureau fitted on post-war data. These predicted values did not correlate much better with the revised values than with the ZWO data; in fact, correlations were bad in both cases. This may be caused by systematic changes in behaviour since the second world war. The new changes in stock data were also compared with the changes in the volume of imports; here approximately the same relation turns out to hold as in the 1952-72 period, the years 1930-32 being an exception. On balance, it seems reasonable to conclude that the revised change in stock data

are an improvement on the ZWO data, but that they should not be considered as the most reliable series in the national accounting data for the interwar period.

2.6 Constant-price data

Previously, the only long-term national accounting series of price and volume data published by the CBS are those for net national income at market prices. In addition, some isolated series were published for the interwar period, e.g., for private consumption 1923-39, and unit-values and volume data for imports and exports of goods. In the ZWO project, price and volume series were compiled for a large number of variables, but these were never published. In compiling them, ZWO employed Fisher indices with annually updated weights; hence long-term comparisons were based on chain indices.

The same procedure has been introduced in the national accounts for 1981 onwards, with the difference that a Paasche price index (current-year weights) and a Laspeyres volume index (previous year weights and prices) are employed. The same approach was followed in the revision of the interwar data. The shifting weights approach has the advantage that annual growth rates are approached better than with constant weights of some base year; the disadvantage is that long-term comparisons of levels in constant prices can only be made on the basis of chain indices. Since growth rates and the relations between growth rates of different variables are the central issue in the analysis of the business cycle, the advantages of shifting weights outweigh the disadvantages.

Generally speaking, price indices were derived first and volume indices obtained next by deflating current-price data. We discuss the deflation of foreign trade data first, next that of the components of domestic final expenditure.

For the purposes of the deflation, imports of goods have been broken down into eighteen commodity groups. In case of imports of raw materials, there is a breakdown into groups according to industries of destination. The remaining eight commodity groups are: fuels, foodstuffs, non-food consumption goods, postal parcels, diamonds, silver, and other goods. The deflators for raw materials, fuels and consumption goods are taken from CBS (1951). They are

based on foreign trade statistics and hence have the character of unit-value indices. A Paasche weighted average of these indices has been employed as deflator for postal parcels. Prices of diamonds are assumed to have been constant. For silver, unit-values were available from the foreign trade statistics. For 'other goods', the average deflator of raw materials was used. Imports of services were deflated by means of the average deflator of the imports of goods.

In case of exports, 19 commodity groups were distinguished. Exports of industrial products were broken down in 10 groups, corresponding with the industries of origin. Agricultural products were broken down in three groups: crops, fruits and vegetables, and livestock products. In addition, fishing products, re-exports, postal parcels, diamonds, silver and other goods were distinguished. Most deflators were taken from CBS (1951). Prices of diamonds were, once more, taken to have been constant, for silver a unit-value was obtained and postal parcels were deflated with an average of the indices for industrial and agricultural products. Exports of services were deflated by means of an average of the deflators of the exports of goods and of consumption expenditure of non-residents in the Netherlands.

Data for the deflation of private consumption were taken from CBS (1949), unpublished ZWO reports and from Barten's (1966) revision of previous CES data. In total, 53 groups of goods and services were distinguished. The Barten data refer to domestic consumption. In order to arrive at a deflator of national consumption, deflators for consumption of residents abroad and of non-residents in the Netherlands were needed. For lack of data, the latter was taken to be equal to that of domestic consumption. The former was assumed to equal the deflator of imports.

The deflator of government consumption is an average of those of government wages and social charges, net material consumption and consumption of fixed capital. For the first of these, a ZWO wage index was employed; it is a weighted average of wages of a number of characteristic groups of government employees. For the second component of government consumption, the wholesale price index of final products was used for 1926-39; for 1921-25 an average of component of government consumption was deflated with the price index of government buildings.

Government investment was deflated by means of a weighted average of the indices for its components: infra-structural works, government buildings, major repair and maintenance, and own account investment. Data were taken from reports of the ministries and departments concerned. In case of the wage part of own account investments, the wage deflator referred to above has been employed.

Deflators for private investments were taken from the ZWO reports. The basic data are on prices of new dwellings, private enterprise buildings and other private construction, investment goods produced by the metal industry (shipbuilding being treated separately), imports of investment goods, major repair and maintenance of buildings, and infra-structural works. The ZWO data on investments produced by the construction industry have been taken from reports of the Ministry of Housing and from other departmental reports. No prices of investment goods produced by the domestic metal industry were available. Therefore, the unit-value indices for substitute goods, published in foreign trade statistics were employed, after applying a smoothing procedure.

Consumption of fixed capital by enterprises was deflated by means of the deflator of private investment. Changes in stock were deflated by means of the general wholesale price index, except for 1921-25 where the average of the indices for foodstuffs and raw materials was used.

The set of deflators just discussed makes it possible to determine the values of the categories of final expenditure and of imports in prices of the previous year. Domestic product in prices of the previous year is then obtained as a balancing item. In order to obtain the volume of the national product, net primary income from the rest of the world has to be deflated. To this end we deflated, following current methodology, primary income from the rest of the world with the deflator of exports and primary income to the rest of the world with that of imports.

2.7 Results of the revision

The revision makes it possible to draw-up a virtually complete set of SNA

accounts for the nation for the interwar period. The only missing data are those on transactions in intangible assets. Even for recent years the CBS does not have sufficient information to compile reliable estimates of the value of these transactions. The full set of accounts is given in appendix 3. For purposes of comparison, the series for 1969-85 have been added.

It is interesting to compare the revised data with those compiled previously. In appendix 1, three tables show the differences between these two sets of data. Table 2.2 shows the published version of the domestic product account before the revision. Item 5 in this table contains changes in stocks (20 million). Since the latter is a balancing item, the balance of all errors in the accounts ends up in this item. Therefore, it is instructive to show how the changes in stocks have been determined by ZWO.

Table 2.2 Domestic product before the revision, 1938 ('National accounts 1985')

	mln guilders
1. Net domestic product at market prices	4993
2. Imports of goods	1459
3. Private consumption	4400
4. Government expenditure	700
5. Net private investment and changes in stocks	60
6. National expenditure (net)	5160
7. Exports of goods	1074
8. Net exports of services	218

Table 2.3 Determination of changes in stocks before the revision, 1938 (ZWO data)

Source	Item	mln guilders
Mon 7	Net national income at factor cost	4904
Mon 7	Indirect taxes less subsidies	491
Mon 7	Net national income at market prices	5395
ZWO	Consumption of fixed capital	631
	Gross national product at market prices	6026
ZWO/CBS	Imports of goods	1459
	Total (supply)	7485
CBS (1949)	Private national consumption	4400
Mon 8	Government consumption	700
ZWO	Gross private investment in fixed assets	671
ZWO/CBS	Exports of goods	1074
10Y.BOP	Net services and income to the rest of the world (of which 402 income)	620
	Sub-total (disposition)	7465
Balancing item	Changes in stocks	20
	Total (disposition=supply)	7485

This table shows that the value of the consumption of fixed capital directly affects that of the change in stocks. As explained in section 2.1, consumption of fixed capital has been recalculated in the revision, by means of the perpetual inventory method. Table A.1.2 (appendix 1) shows that this yields a 1921 value of consumption of fixed capital 600 million guilders lower than before the revision (a downward revision of some 60%). The smallest nominal

revision correction is the one for 1936; but even there the downward correction is 219 mln guilders or 42%. These sizeable corrections were necessary because ZWO had overestimated consumption of fixed capital. It was put at 3.6% of the capital stock, without taking the latter's composition and the economic lifetimes of the components into account. Hence, for 1938 the 3.6% turns out to be too high. The ZWO computation started at the 1938 capital stock and next went backwards to 1921. Because the 1938 consumption of fixed capital was overestimated, so was the capital stock for previous years and hence consumption for those years, and so on. As a result, the 1921 capital stock according to ZWO is implausibly high. The resulting differences between ZWO and the revision cause a substantial downward revision of the balancing item 'change in stocks'; the differences are shown in table A.1.2, appendix 1.

Tables 2.4 - 2.6 show the average annual percent differences between the revised and the ZWO data. In addition to those for the whole interwar period, data for the twenties and thirties are shown separately, because there are some systematic differences between the two periods. The year 1939 is omitted, because the ZWO project did not cover it.

Table 2.4 Differences between revised and ZWO data, as percentage of the latter: value added and aggregate product and income measures

	Averages of annual percent differences		
	1921-29	1930-38	1921-38
Wages and social charges	-0.3	1.6	0.7
Operating surplus	6.6	4.9	5.8
Net domestic product at factor cost	3.0	3.0	3.0
Indirect taxes less subsidies	-3.2	-5.7	-4.5
Net domestic product at market prices	2.6	2.2	2.4
Consumption of fixed capital	-55.0	-41.2	-48.1
GDP at market prices	-4.9	-2.6	-3.8
Net primary income from abroad	-9.4	-15.0	-12.2
Net national income at factor cost	1.7	1.8	1.8
Net national income at market prices	1.5	1.2	1.3
GNP at market prices	-5.3	-3.3	-4.3
Net secondary income from abroad	.	.	.
Gross disposable income at market prices	-5.2	-3.2	-4.2

The operating surplus has been revised upward by some 6%. The net income and product aggregates have been raised by some 2-3%, the gross versions are adjusted some 3-6% downwards.

Table 2.5 shows the impact of the revision on the levels of the variables distinguished in the publications until now; hence it corresponds to table 2.2. Table 2.6 shows the gross version of the variables in table 2.5. The most sizeable adjustments are those of government expenditure (some 4% increase), net investment and changes in stocks (25-75%) and net exports of services. In the case of the gross variables, the most important change is in gross investments including changes in stocks: a downward revision by one-

third. This, however, is not the sole cause of the changes in the development of the indices: value changes are another cause.

Table 2.5 Differences between revised and ZWO data, as percentage of the latter: domestic product account, net

	Average of annual percent differences		
	1921-29	1930-38	1921-38
1. Net domestic product at market prices	2.6	2.2	2.4
2. Imports of goods	0.1	0.7	0.4
3. Private consumption	-0.2	-0.4	-0.3
4. Government expenditure (net)	5.2	3.3	4.3
5. Net private investment & changes in stocks	26.9	77.3	52.1
6. National expenditure (net)	1.7	1.8	1.8
7. Exports of goods	0.5	0.6	0.6
8. Net exports of services	4.4	4.9	4.7

Table 2.6 Differences between revised and ZWO data, as percentage of the latter: domestic product account, gross

	Averages of annual percent differences		
	1921-29	1930-38	1921-38
1. GDP at market prices	-4.9	-2.6	-3.8
2. Imports of goods	0.1	0.7	0.4
3. Private consumption	-0.2	-0.4	-0.3
4. Government expenditure (gross)	8.1	6.2	7.2
5. Gross private investment & changes in stocks	-33.0	-32.3	-32.7
5a of which: gross private investment	-0.5	1.5	0.5
6. National expenditure (gross)	-3.4	-1.9	-2.7
7. Exports of goods	0.5	0.6	0.6
8. Net exports of services	4.4	4.9	4.7

Price and volume series are presented in appendix 3. To illustrate the impact of the revision on the corresponding ZWO series (most of which were never published), table 2.7 shows price and volume indices for 1921 and 1929 (1938=100) for private consumption and foreign trade in goods. It should be borne in mind that the index formula's employed in the revision differ from the Fisher indices of ZWO.

Table 2.7 Revision and ZWO: price and volume indices of private consumption and foreign trade in goods.

	1921		1929	
	ZWO	Revision	ZWO	Revision
	Price indices, 1938=100			
Private consumption	144	162	130	132
Exports of goods	216	210	159	157
Imports of goods	201	205	156	158
	Volume indices, 1938=100			
Private consumption	76	67	90	88
Exports of goods	67	69	127	129
Imports of goods	84	83	129	128

3. The macro-economic history of the Netherlands: interwar period and recent past

3.1 Introduction

The revision of the historical data for the interwar period has produced time series that are, to a considerable degree, consistent with those for the period from 1969 onward. They are, moreover, far more detailed and complete than the series published so far. This makes it possible to describe, for the first time, macro-economic developments in the interwar period in a way that allows comparison with recent developments. Thus a number of elements of the traditional view of the interwar period, as explained in section 1.1, can be reconsidered; differences and similarities with the recent past can be traced. Section 3 is devoted to this. First, in section 3.2, we consider economic growth in terms of the GDP volume. This makes it possible to judge whether the prosperity of the twenties was, as the traditional view holds, more apparent than real. In addition, we compare Dutch growth with growth abroad, in order to determine whether the recovery after the early thirties was slower and weaker than abroad. In section 3.3 economic relations with the rest of the world are discussed: imports, exports, primary income flows from abroad, and the exchange rate policy. Section 3.4 discusses government expenditure and the budget deficit of the central government. Finally, section 3.5 covers private consumption and investment.

3.2 Economic growth in the Netherlands and the OECD

Table 3.1 shows the average annual volume growth of the GDP of the Netherlands for 1922-39 and 1970-85. The GDP is at market prices; unless otherwise indicated, all variables discussed in section 3 are valued at market prices. Average growth rates are defined as geometric averages of annual rates. For 1922-39 and 1981-85, the volume growth rates are defined in terms of prices of the previous year; for 1970-79 they are based on variables in 1980 prices. Data for 1985 and 1984 are provisional and 'revised provisional', respectively.

The choice of 1969-85 (1970-85 in case of growth rates) as the period to

compare the 1921-39 data with, has been made in view of data availability: the 1969-85 data are consistent time series, but the pre-1969 data are not consistent with the post-1969 data. In most of the tables we break down both the interwar period and the recent past into four subperiods, with a difference of 50 years between corresponding subperiods. Naturally, the first subperiod of the interwar period, 1921-24, numbers only four years (three in case of growth rates) whereas the subperiod half a century later on, 1969-74, numbers six years. Similarly, the last subperiod of the recent past covers one year only, 1985.

Table 3.1 Average annual growth of Dutch GDP

Interwar period		Recent past	
	%		%
1922-24	5.2	1970-74	4.4
1925-29	4.4	1975-79	2.4
1930-34	-1.5	1980-84	0.5
1935-39	3.6	1985	1.5
1922-29	4.7	1970-79	3.4
1930-39	1.0	1980-85	0.7
1922-39	2.7	1970-85	2.4

There are remarkable similarities between the two periods. Average growth was some 2.5% in both cases. Developments within the two periods are similar too: rapid growth first, a modest slowdown next, followed by a period with negative or near-zero growth and, finally, a degree of recovery. However, the fluctuations between subperiods are more pronounced in the interwar period than in the recent past. Growth in the first half of the twenties was very fast, faster than in the early seventies but also faster than in the fifties. Only in the sixties was faster growth achieved - at least according to the available, not fully comparable, data: 5.7% in 1960-61; 5.5% in 1965-69. In the second half of the twenties growth was still quite strong, whereas in the second half of the seventies it was more modest. In comparing the data for

the twenties and thirties, it should be borne in mind that population growth in the twenties exceeded that in the seventies: 1.5% versus 0.9%. Nevertheless, it is clear that the growth of the twenties was real: there was a strong growth of the real value added created in domestic production, more so than in, e.g., the fifties or the seventies.

In the thirties too, fluctuations were more pronounced than in the period fifty years after: in the first half of the thirties GDP fell by an annual average of 1.5%, whereas average negative growth was, barely, avoided in the 1980-84 period. The recovery in the second half of the thirties was correspondingly stronger than what may be expected for the second half of the eighties. Of course, only provisional data (which may be revised upward) are available for 1985 along with the estimates for 1986 in the quarterly accounts that display a growth rate below 35%. But since the predictions of e.g., the Central Planning Bureau for 1987 and subsequent years are considerably below the 3.5% growth level too, it is safe to conclude that the 3.5% growth rate of 1935-39 will not be achieved in 1985-89.

How do these growth rates compare to those abroad? Table 3.2 shows the growth rate of the volume of GDP (or a related variable, cf. appendix 2) for the current OECD countries, for the EC countries, Scandinavia, the US and Japan. Interwar data have been corrected for border changes in that period.

Table 3.2 Growth rates of GDP in OECD countries

	Netherlands	OECD	EC	Scandinavia	US	Japan	Dutch trade partners
Interwar period							
1922-24	5.2	6.3	5.3	5.3	7.2	1.0	4.7
1925-29	4.4	3.5	3.6	4.7	3.4	3.4	3.8
1930-34	-1.5	-2.6	-0.1	1.7	-5.3	2.2	-0.2
1935-39	3.6	5.2	4.5	3.8	6.0	6.4	4.4
1922-29	4.7	4.5	4.2	4.9	4.8	2.5	4.1
1930-39	1.0	1.2	2.2	2.7	0.2	4.3	2.1
1922-39	2.7	2.7	3.1	3.7	2.2	3.5	3.0
Recent past							
1970-74	4.4	3.7	4.1	3.7	2.3	5.7	4.0
1975-79	2.4	3.0	2.6	2.5	3.0	4.6	2.5
1980-84	0.5	1.9	1.0	2.2	1.9	3.9	1.2
1985	1.5	3.0	2.3	3.1	2.9	4.5	2.4
1970-79	3.4	3.4	3.3	3.1	2.7	5.1	3.3
1980-85	0.7	2.1	1.2	2.3	2.0	4.0	1.4
1970-85	2.4	2.9	2.5	2.8	2.4	4.7	2.6

Interwar data are less reliable than those for the recent past. Nevertheless, a number of conclusions can be inferred from table 3.2. Firstly, Dutch growth in the interwar period did not substantially diverge from the OECD norm: in both cases 2.7% is indicated by table 3.2. In the recent past there is a small divergence: Dutch annual growth is a half percent slower than OECD growth. If the twenties, thirties and seventies are considered separately, there is not much difference between Dutch and OECD growth either. This, however, does not

apply to the eighties: until now, Dutch growth in the eighties is a bit sluggish compared to OECD growth. Within each of the ten-year periods, there are more differences. In the interwar period, Dutch growth was less unstable than OECD growth: in the OECD the 'super growth' of the first half of the twenties was even stronger, the slowing down in the second half of that decade more pronounced; the decline in the early thirties was stronger as well as the recovery in the second half of the thirties. Thus, in the thirties as a whole the Dutch growth performance was no worse than that of the OECD. In contrast, since 1975 Dutch growth, on the average, is clearly slower than OECD growth.

This picture is modified somewhat if the Netherlands are compared with some individual countries and country-groupings within the OECD region. Both in the interwar period as a whole and in the recent past, the difference between the Dutch growth rate and that of the EC is slight. However, in the thirties there are considerable differences. In the EC countries the decline of real GDP in the early thirties was much less than in the Netherlands; in fact, the fall in Dutch real GDP exceeded that of all EC countries for which data are available (cf. the tables in appendix 2). The recovery in the second half of the thirties was correspondingly stronger. This is not evident from table 3.2, since the EC average was heavily influenced by the exceptional growth of the two Axis countries, Germany (9.1%) and Italy (4.8%). Dutch growth exceeded that of all other EC countries. In both the first and the second part of the seventies economic growth in the Netherlands was just about average, vis-a-vis the EC; in the eighties Dutch growth was below the EC average.

The Scandinavian performance in both the depression of the thirties and that of the eighties is remarkable. In the first part of the thirties this area was, together with Japan, the only OECD area where significant economic growth occurred. In the first part of the eighties, Scandinavia once again was, after Japan, the least affected part of the OECD, though by a smaller margin than in the thirties.

How is it possible that the fall in Dutch real GDP in the early thirties was worse than that in virtually all European countries, and yet less severe than in the OECD as a whole? This is caused by the unprecedented economic collapse in the US: 1933 real GDP was some 30% below that of 1929. However, after the US, Canada and Austria, the Netherlands were hit hardest by the depression (disregarding countries for which no data are available). Something

similarapplies in the early eighties: by the present set of data, Dutch economic growth in the 1980-84 period was below that of all other OECD countries (cf. appendix 2).

If one wishes to determine whether, as the traditional view holds it, Dutch economic performance in the thirties was worse than that of the rest of the world, the issue is which 'rest of the world' one wishes to compare with. We already saw that comparisons with the OECD as a whole, the EC, Scandinavia or the US each yield different results. In addition to these, an important 'rest of the world' is the Dutch export-markets. The last column in table 3.2 shows the GDP growth rates of the OECD countries, reweighted with their 1930 shares in Dutch exports, and, for the recent past, the 1980 shares. Average growth for a period is computed as the arithmetic average of the growth rates in individual years. Generally speaking, the growth rates of the trade partners do not differ much from those of the EC; this is no surprise, since the EC bulks large in Dutch exports, both today and in the twenties and thirties. As before, it should be noted that the growth rate of trade partners in the second part of the thirties is strongly influenced by that of Germany: in 1930 the German share in total Dutch exports to OECD countries was 27%. In 1938, however, this share was much lower. If this is taken into account, the trade partners' growth rate is not significantly higher than that of the Netherlands.

The conclusion seems justified that Dutch economic performance, measured by GDP growth, did not differ much from that abroad, except in the first part of the thirties and eighties, when it was relatively weak. The traditional view as though the recovery in the second part of the thirties was weaker than abroad has to be modified: in this period North America - where the depression had been that much deeper - and the Axis countries were the only industrial countries where economic growth was substantially faster than in the Netherlands. However, it still remains to be seen if, as the traditional view also holds, recovery began later in the Netherlands than abroad. This issue can only be resolved by means of the data for individual years. Table 3.3 provides these for the thirties and eighties. For each country or country group there are two columns; the first one shows the volume growth of GDP in the thirties, the second one, headed '+50', that fifty years later on.

Table 3.3 GDP growth rate in the OECD, thirties and eighties

	Netherlands	+50	OECD	+50	EC	+50	US	+50	Trade partners	+50
	%									
1929	2.4	2.4	4.8	3.1	3.6	3.3	6.1	2.0	2.6	3.4
1930	-1.1	0.9	-5.5	1.3	-1.8	1.1	-9.6	0.0	-1.2	1.8
1931	-4.6	-0.7	-6.2	1.5	-4.6	-0.1	-7.7	2.1	-5.2	-0.1
1932	-0.9	-1.5	-7.3	-0.3	-1.8	0.5	-13.7	-2.5	-3.5	0.5
1933	0.4	1.3	0.5	2.4	3.1	1.4	-2.0	3.4	3.3	1.3
1934	-1.1	-2.5	6.1	4.5	4.9	2.3	7.7	6.6	5.4	2.5
1935	2.7	1.5	6.0	3.0	3.8	2.3	8.6	2.9	4.5	2.4
1936	5.4		9.0		4.4		13.9		4.9	
1937	5.7		5.3		6.2		4.8		5.6	
1938	-3.2		-0.4		3.4		-4.4		3.1	
1939	7.7		6.1		4.7		7.8		3.8	

In the thirties, Dutch growth differs substantially from that of the OECD and from that of the trade partners in two years only: in 1934 and 1938. In both years, there was a significant fall in the volume of Dutch GDP, whereas in 1934 no other important OECD country had a negative growth rate, and in 1938 only non-European OECD countries (notably the US).

Possibly, the relatively bad performance of the Dutch economy in 1934 has generated the traditional view as though the right-of-center policies retarded recovery in the Netherlands. In the next section we return to this subject, and also discuss the possible causes of the 1938 decline of real GDP.

There is a remarkable year by year similarity between the thirties and eighties: after exactly fifty years a similar pattern of volume changes in GDP emerges. Both the 1930 and the 1980 growth rate are substantially lower than the ones in the years before. This was true for virtually all countries. The sharpest decline occurred, in most countries, two years later on, in 1932 and 1982. In 1933 and 1983 recovery began and accelerated in the next year (except, as noted above, in the Netherlands in 1934).

Of course, it is still a bit early to judge whether this year by year similarity will be retained in the second part of the eighties, though, there are some signs that a 1938-type recession is in the books for 1988 too.

3.3 Economic relations with the rest of the world

The Dutch economy in the era of the European (Economic) Community is extremely open. In the seventies, Dutch imports of goods and services had a value of some 46% of the GDP. But this is no novelty: in the twenties the percentage was higher still, viz. 50%. Hence, economic relations with the rest of the world are quite important for the Netherlands. In order to analyse their development, table 3.4 shows the structure of the current account of the balance of payments - according to national accounting definitions - in percents of the GDP. The data are averages for the same periods distinguished before.

In both the interwar period and the recent past there is, on average, a surplus on the current account: 0.5% and 1.6% of the GDP, respectively. This slight difference, however, hides very sizeable differences within the two periods concerned, as well as in the structure of the current account. We shall discuss some of the main differences in structure. The first one concerns primary income flows, the second one the development of total imports and exports, and the third one the composition of imports and exports.

Table 3.4 Current account of balance of payments

	Foreign trade in goods and services			Primary income from/to abroad			Net. sec. inc. from abroad	Balance of current account
	Exports	Imports	Balance	Rec.	Pay.	Bal.		
Interwar Period	In % of GDP							
1921-24	39.3	48.7	-9.4	10.2	2.3	7.9	0.1	-1.4
1925-29	44.3	51.0	-6.7	11.2	2.2	9.0	0.1	2.4
1930-34	26.2	32.9	-6.7	7.0	2.0	5.0	0.0	-1.7
1935-39	25.8	29.2	-3.4	7.8	2.3	5.5	0.0	2.1
1921-29	42.1	50.0	-7.9	10.7	2.2	8.5	0.1	0.7
1930-39	26.0	31.0	-5.0	7.3	2.1	5.2	0.0	0.2
1921-39	33.7	40.0	-6.3	9.0	2.2	6.8	0.0	0.5
Recent past								
1969-74	46.5	45.4	1.1	4.0	3.4	0.6	-0.3	1.4
1975-79	48.5	47.0	1.5	4.0	4.0	-0.1	-0.6	0.8
1980-84	57.7	54.5	3.2	7.8	7.9	-0.1	-0.9	2.2
1985	64.2	59.3	4.9	7.7	7.4	0.3	-0.9	4.3
1969-79	47.4	46.1	1.3	4.0	3.7	0.3	-0.5	1.1
1980-85	58.8	55.3	3.5	7.8	7.8	0.0	-0.9	2.6
1969-85	51.4	49.3	2.1	5.3	5.2	0.1	-0.6	1.6

Net primary income from abroad, income from the Dutch East Indies and from natural gas.

The value of net primary income (wages, property and entrepreneurial income) from abroad should be considered in relation to the value of the balance of trade.
In the interwar period, the latter was consistently negative, on average an amazing -6.3% of the GDP. In the recent past, in contrast, there was an average surplus on the balance of trade of 2.1% of the GDP. This sizeable difference is compensated by a difference in the value of net primary income from abroad: in the twenties and thirties this value is strongly positive, 6.8% of the GDP on average, whereas in the recent past it was about nil on average. The spectacular change was not well-known before, because the present paper is the first to show separate data for trade in services and primary income flows. How can the change be explained? Table 3.5 displays time series of the two variables that are mainly responsible for the change: net primary income from overseas territories in the interwar period, and income from natural oil and gas in the recent past.

In the interwar period, almost two-thirds of net primary income from abroad turns out to be attributable to the overseas territories (mainly the Netherlands East Indies). The main components of this flow are dividends and interest on government loans to the East Indies. In the seventies and eighties, the proceeds from natural oil and gas play a similar role. They too are a sizeable income source that requires virtually no domestic production factors. Exports of the industry 'natural oil and gas production' were an average 2.2% of the GDP in the 1969-85 period. But this is only part of the impact on the balance of payments: if there would be no deposits of oil and gas in the Netherlands, the country would have to import these or other fuels. Consequently, a better yardstick for the impact of oil and gas on the balance of payments is the gross value added of the industry (Of course this presupposes constant use of energy as well as constant prices and exchange rates). In 1969-85, this value added is an average 4.2% of GDP, a percentage just about equal to that of primary income from overseas territories in the interwar period.

Table 3.5 Income from overseas territories and from natural oil and gas production

Net primary income from overseas territories		Natural oil and gas production		
			Exports	Gross value added
	In % of GDP			
		1969	0.3	0.8
		1970	0.4	1.1
1921	6.4	1971	0.5	1.1
1922	4.9	1972	0.7	1.6
1923	5.3	1973	0.8	1.9
1924	5.4	1974	1.2	2.5
1925	5.8	1975	1.8	3.9
1926	6.3	1976	2.1	4.5
1927	5.8	1977	2.3	4.6
1928	5.1	1978	2.1	4.1
1929	4.3	1979	2.3	4.4
1930	3.4	1980	3.1	5.5
1931	2.0	1981	4.0	6.2
1932	1.7	1982	3.7	6.9
1933	1.7	1983	3.6	7.2
1934	1.8	1984	3.8	7.6
1935	2.0	1985	4.1	8.3
1936	2.3			
1937	2.9			
1938	3.7			
1939	3.1			

Table 3.5 (end)

Net primary income from overseas territories		Natural oil and gas production		
			Exports	Gross value added
	In % of GDP			
1921-24	5.5	1969-74	0.7	1.5
1925-29	5.5	1975-79	2.1	4.3
1930-34	2.1	1980-84	3.6	6.7
1935-39	2.8	1985	4.1	8.3
1921-29	5.5	1969-79	1.3	2.8
1930-39	2.5	1980-85	3.7	7.0
1921-39	3.9	1969-85	2.2	4.2

If we deduct the value added from natural oil and gas production in the 1969-85 period from the balance of trade we obtain, in % of the GDP:

1969-74	-0.4
1975-79	-2.8
1980-84	-3.5
1985	-3.4

This modified balance of trade is similar to that in the interwar period, in particular if the eighties and the second part of the thirties (-3.4%) are compared (see table 3.4 for 1935-39).

In the 1930-34 period, primary income from overseas territories had fallen dramatically compared to the 1925-29 level: from 5.5% to 2.1% of the GDP. Data for the individual years show that until 1926 this income flow steadily increased and began to decrease in 1927. This is mainly due to a substantial decline in dividends from the East Indies, as table 3.6 shows. This, in turn, was caused by falling world prices of raw materials in the 1926-34 period.

Profits of Dutch enterprises in the East Indies depended strongly on these prices, because raw materials were the main source of exports proceeds. The second column of table 3.6 provides an indication of this decline in prices, by displaying a unit-value index of world exports of non-industrial products, expressed in pounds sterling. This is the most relevant currency, because the major part of the prices of raw materials were determined in sterling terms in the interwar years. Because the dividends were paid in guilders, the pound to guilder exchange rate is also shown.

The relation between dividends and prices of non-industrial products is clear, though a lag of about one year appears to be present.

Table 3.6 Dividends from the East Indies and some unit-value and exchange rate series

	Dividends from the E. Indies	Unit-value (pounds) of non-industrial products	Exchange rate of the pound		Unit-value ($) of imports of mineral fuels by developed market economies	Exchange rate of the dollar
	In % of GDP	1929=100	Guilders		1980=100	Guilders
				1969	8	3.60
				1970	8	3.62
				1971	10	3.49
1922	2.3	103	11.50	1972	10	3.21
1923	2.1	115	11.70	1973	12	2.78
1924	2.7	121	11.55	1974	35	2.69
1925	3.3	125	12.02	1975	40	2.53
1926	3.9	110	12.12	1976	42	2.64
1927	3.4	106	12.12	1977	44	2.45
1928	3.2	106	12.10	1978	46	2.16
1929	2.7	100	12.09	1979	64	2.01
1930	2.1	78	12.09	1980	100	1.99
1931	0.8	60	11.25	1981	111	2.49
1932	0.4	61	8.69	1982	104	2.67
1933	0.4	59	8.24	1983	94	2.85
1934	0.3	63	7.48	1984	89	3.21
1935	0.4	66	7.24	1985	87	3.22
1936	0.7	71	7.78			
1937	1.2	79	8.98			
1938	2.1	68	8.89			

Sources: cf. appendix 2.

Table 3.6 also provides an index of the unit-value of mineral fuels (mainly crude oil) from 1969 onwards.

This index is based on dollar prices, because the dollar is, in the 1969-85 period, the currency in which prices of raw materials, including oil, are determined. Once more, for the Netherlands the prices in guilders are what matters; hence the dollar to guilder exchange rate is also given. The relation between, on the one hand, prices and, on the other, exports and value added of natural oil and gas production (cf. table 3.5) is clearly visible; here too a lag appears to be present. Thus the similarity of raw materials production in the Dutch East Indies in the interwar period, and production of natural oil and gas today is clear. However, one proviso should be added, regarding the sensitivity of the balance of payments and receipts for raw materials prices in the interwar years and for fuel prices at present. In both cases, not only receipts are sensitive to price fluctuations but payments too. In particular, payments in respect of imports for non-industrial products in the interwar period and for imports of fuels today. In 1925 exports of non-industrial products (SITC classes 0-4) were 22% of the GDP, but imports 27%, a negative balance of 5%. This was compensated by the 5.8% receipts from the East Indies that were mainly generated by production of non-industrial products. Consequently, on balance payments and receipts for non-industrial products offset each other. In the eighties something similar holds true with respect to imports and exports of mineral fuels, including the chemical products based on the latter.

Total imports and exports

In the interwar period and in the recent period considerable changes occurred in both the value (as a percentage of the GDP) and the volume growth of imports and exports. This is illustrated in table 3.7.

Table 3.7 Value and volume of imports and exports of goods and services

	Exports			Imports		GDP	
	+50		+50		+50		+50
	In % of GDP		%				
1921-24	44	46	11.3	9.4	6.1	7.0	5.2	4.4
1925-29	48	48	4.6	3.0	4.8	4.1	4.4	2.4
1930-34	30	56	-6.4	2.7	-4.7	0.7	-1.5	0.5
1935-39	28	62	3.1	4.6	2.1	5.7	3.6	1.5
1921-29	46	47	7.0	6.2	5.3	5.6	4.7	3.4
1930-39	29	57	-1.8	3.0	-1.4	1.6	1.0	0.7
1921-39	37	50	2.1	5.0	1.5	4.0	2.7	2.4

The first two columns display the average value of imports and exports as a percentage of the GDP. This variable is an obvious yardstick for the degree of openness of an economy. The next four columns show the growth rates of the volume of imports and exports. For the sake of convenience, the final column repeats the GDP growth rate shown in a preceeding table. In both periods, the average value of imports and exports started at a high level: about 45%, rising to 48% in the second half of the twenties and seventies. Thereafter, however, there is a strong divergence between the interwar period and the recent past: in the thirties the openness of the economy declined sharply, to below 30%, whereas in the eighties it increased rapidly, to 62% in 1985 (note that, in the row 1935-39, data in the +50 columns refer to 1985 only). A part of this increase is due to the growth of goods imported from non-EC countries and re-exported to EC countries. In 1969 these constituted 3.6% of total exports, in 1983 this percentage had doubled. Even so, there was a substantial true increase of imports and exports.

The pattern of volume growth is similar to that of the value of imports and exports vis-à-vis the GDP. In the first parts of both the twenties and the seventies the volume of imports and exports grew very fast, much faster than the volume of GDP. The latter was no longer true in the second parts of the twenties and seventies, even though the volume of foreign trade continued to grow.

In the first part of the thirties, there is a sharp fall in the volume of imports and exports, whereas in the eighties exports kept on growing. In the second part of the thirties the volume of trade recovered.

Thus, it is clear that the depression of the thirties was accompanied by a sharp decline of foreign trade, whereas in that of the eighties trade continued to grow. This is a remarkable difference. Traditionally, one of the major causes of the depression of thirties is thought to have been the protectionism that induced a collapse of world trade. Similarly, the consensus view of today is that growth of exports is a necessary condition for economic recovery. Therefore, economic policy in the Netherlands in the past few years aimed at improving the competitiveness of Dutch exports by freezing or even lowering nominal wages. This appears to have been successful, witness the continuation of significant growth of exports (explained only very partially by growing exports of natural gas). Thus there is a sharp contrast with the thirties. Hence it is remarkable that, though the difference in change in the volume of exports between 1930-34 and 1980-84 was 9%, the difference in GDP growth was only 2%.

The fall of exports in the early thirties is usually attributed to two causes: the decline of world trade and Dutch exchange rate policy. In order to consider both factors, table 3.8 presents a number of data for each of the years 1929-39.

Table 3.8 Foreign trade in the thirties

	Values			Volume growth rates			Price changes			
	Imp.	Exp.	Balance of current account	Imp.	Exp.	World exp. (1)	GDP	Imp.	Exp.	Guilder (2)
	1	2	3	4	5	6	7	8	9	10
	In % of GDP			%			%			
1929	50.0	43.0	0.8							
1930	45.0	37.0	0.8	-4.9	-8.0	-7.0	-2.5	-9.3	-9.0	-0.1
1931	38.0	31.0	-1.3	-5.0	-7.8	-10.0	-4.1	-18.9	-18.1	3.0
1932	29.0	22.0	-2.1	-14.0	-16.5	-16.7	-8.4	-19.8	-21.4	14.4
1933	28.0	20.0	-4.1	5.4	-3.6	3.3	-3.9	-10.7	-8.9	9.7
1934	26.0	21.0	-1.8	-4.1	5.1	6.5	-0.6	-6.5	-3.8	9.8
1935	24.0	21.0	0.4	-3.3	4.6	3.0	-4.1	-2.7	-5.0	5.0
1936	26.0	23.0	2.2	2.0	3.3	2.9	-3.8	5.0	6.4	-3.8
1937	34.0	31.0	3.0	8.2	19.1	14.3	3.1	34.7	26.1	-8.0
1938	31.0	29.0	3.8	-0.9	-4.9	-5.0	5.0	-6.6	-2.3	6.9
1939	30.0	25.0	1.1	4.9	-4.6	.	2.0	0.3	2.4	2.1

(1) Source: UNCTAD, 1972; based on an index 1963=100, implying that values of growth rates are not too precise.

(2) Changes of an index 1929=100 of the unweighted average of the exchange rates of the guilder vis-à-vis the currencies of the seven major trade partners: Germany, Belgium, UK, US, France, Sweden and Denmark.

The first two columns of table 3.8 show the value of imports and exports as a percentage of the GDP. The rate of decrease of the value of exports was, in the early thirties, somewhat higher than that of imports. This can be seen more directly from the percentage value changes:

	Imports	Exports
1930	-14	-16
1931	-23	-24
1932	-31	-34
1933	- 6	-12
1934	-10	1
1935	- 6	-1
1936	7	10
1937	46	50

In 1933 exports had reached their lowest value, in 1934 recovery began in a minor way. In case of imports, the lowest value was not reached until 1934/35. Together with the evolution of net primary income from abroad, this divergence in the development of imports and exports was responsible for the fall in the balance of the current account until 1933, as well as its improvement in subsequent years: in 1935 a surplus had already been achieved. The changes in the volume of imports and exports (columns 4 and 5) had a pattern similar to that of the changes in values. At first, exports fell much sharper than imports, but after 1933 the volume of exports expanded again; that of imports, in contrast, increased in 1933 but fell again in the next two years; only from 1936 onward there was sustained growth. At first, the volume of world exports displayed the same pattern as that of Dutch imports, but in 1934 a divergence occurred: the volume of world exports grew, that of Dutch imports fell. In 1935 the same divergence exists. In addition to this, there is a divergence in 1933 between the volume of Dutch exports (which fell) and that of world exports, which increased for the first time since 1929.

Thus, by and large, it seems correct to attribute the decline of Dutch foreign trade to the collapse of world trade. But the divergences between imports and exports and between world exports and Dutch foreign trade appear to have had specific causes. In order to discover them, columns 7-9 provide the rates of change of a number of price indexes: the implicit GDP deflator and the deflators of imports and exports. In 1930-34, prices of imports and exports consistently fell faster than the GDP deflator, while there is virtually no difference between the two foreign trade deflators.

Changes of import- and export-prices are partially determined by exchange rate movements. Therefore column 10 shows the latter. Thus we arrive at one of the central issues of economic policy in the thirties: the exchange rate policy. As noted in section 1.1, a central element of economic policy was to retain the guilder-gold convertibility and parity. Because other countries did not stick to the gold standard, this policy effectively implied a revaluation of the guilder. That is clearly visible in the last column of table 3.8. In 1932 the value of the guilder rose sharply. This was due to the sterling's leaving the gold in 1931: in 1930 one pound bought 12.09 guilders, in 1932 only 8.69 and in 1935 the exchange rate had fallen to 7.24. In the same period the Scandinavian currencies went down: the Swedish crown rated 67 (guilder-) cents in 1930, 46 in 1932 and 37 in 1935. The dollar was taken off the gold in 1933 and its value fell from 2.48 guilders in 1932 to 1.48 in 1934. The only currencies of importance to the Netherlands to remain stable in the first half of the thirties were the Belgian belga, which did not go down until 1935, the French franc, which remained steady at ten cents until 1936, and the German mark which was stable at 59 cents until 1936.

These exchange rate movements appear to account for the divergence between the changes in the prices of imports and the GDP deflator in 1932-34. If one takes the import prices to have been determined in foreign currencies, this divergence can be attributed completely to the exchange rate changes. Thus, without the latter the relative import price - i.e. vis-à-vis domestic prices - would have been much higher. Consequently, the relatively slow fall in both value and volume of imports as well as the rise in the volume of imports in 1933 may be attributed to exchange rate movements, along with the rapid growth of the deficit on the current account.

Of course the strong guilder did not just influence imports, it affected exports a well. Table 3.9 compares the movement of Dutch export prices with that of world exports. Both have been corrected for the exchange rate movements shown in table 3.8. The latter is the unweighted average of the rates of the currencies of the seven main trade partners. Sources and methods are indicated in appendix 2.

Table 3.9 Dutch and world export prices; rates of change in the thirties

	Dutch export prices (guilders)	Exchange rate of the guilder	Dutch export prices (foreign currencies)	World export prices (foreign currencies)
	%			
1930	-9.0	-0.1	-9.1	-14.1
1931	-18.1	3.0	-15.7	-18.6
1932	-21.4	14.4	-10.1	- 9.5
1933	-8.9	9.7	0.8	1.6
1934	-3.8	9.8	5.6	- 0.4
1935	-5.0	5.0	-0.2	2.3
1936	6.4	-3.8	2.4	7.6
1937	26.1	-8.0	16.0	16.8
1938	-2.3	6.9	4.4	-2.4
1939	2.4	2.1	4.5	.

In the whole five-year period 1930-34, Dutch exports became a bit less competitive: the 1929=100 (chain) index of Dutch export prices in foreign currencies had a value of 71 in 1934, that of world export prices was down to 64. The corresponding volume indexes are 72 and 77, respectively. Thus it looks like the strong guilder did indeed enhance the fall in the volume of exports. Incidentally, the exchange rate index we employed should be interpreted with some care. Thus in 1934, the increasing value of the guilder, and hence the rise in the relative export price that is displayed by table 3.9, is mainly due to the fall of the dollar and the Scandinavian currencies; trade with these countries was much smaller than that with the UK, Germany, Belgium and France. The latter three countries had fairly stable currencies in 1934; moreover, the fall of the sterling had occurred mainly in 1932 and 1933 and seems the major cause of the bad Dutch export performance in 1933. But in 1934 our exchange rate index probably overstates the effective rise of the guilder.

Moreover, in 1934 the 'adjustment policy' began to have impact.

This policy was an attempt to eliminate the divergence between Dutch and world export prices caused by the strong guilder, viz. by inducing further downward changes in domestic prices, e.g., by means of wage cuts. Possibly, the adjustment policy is one of the causes of the growth of the volume of exports in 1934. This is quite obviously true in 1935 when Dutch exports became more competitive, the volume of exports continued to grow and a surplus was achieved on the current account. In addition to this, the volume of GDP grew significantly in this year.

Hence it seems justified to conclude that up to 1933 the strong guilder led to a growing deficit on the current account, an accelerated fall of exports and a relatively slow fall of imports. But after 1933 the adjustment policy contributed to the recovery of the current account and facilitated the participation in the upswing of the international business cycle, in spite of the continued application of the gold standard. The traditional view as though the latter has been a serious mistake is not confirmed by our data.

In September 1936 the cabinet was forced to leave the gold standard after all, and devaluate the guilder. The cause of this was that the remaining 'gold' countries (France, Belgium and Switzerland) held left the gold shortly before. This led to large scale speculation against the guilder. Thus, paradoxically, the guilder began to slide at a time when there was a substantial surplus on the current account; whereas in 1933 it had moved upward while there was a large deficit. This, however, was not completely clear at the time, because there were only incomplete balance of payments data; moreover, they were available far less timely than today.
The consequences of the devaluation are apparent in the 1937 data. Whereas Dutch exports continued to become more competitive in 1936, an explosion of export prices (measured in guilders) in 1937 ate away the impact of the devaluation on Dutch competitiveness. Consequently, the growth of Dutch exports in 1937 did not significantly exceed that of world exports. In 1938 the exchange rate moved up again, probably because, from the point of view of the current account, there had been no real reason for the devaluation. The upward movement of the guilder was particularly pronounced vis-à-vis the Belgian and French currencies. As a result, Dutch exports lost competitiveness in 1938, the volume of exports fell by 5% and that of GDP also shrunk significantly, while the latter did not happen in the other European countries (cf. the preceeding section).

These results suggest a different picture of the effects of the exchange rate and price adjustment policies than the traditional one. Up to 1933 the strong guilder appears to have led to an accelerated fall of Dutch exports and a cushioning of that of imports, thus leading to a deficit on the current account. The, compared with most of the rest of the world, exceptional fall of Dutch real GDP in 1934 has possibly been caused by this imbalance. However, in 1935 and 1936 the competitiveness of Dutch exports improved substantially, exports grew, a surplus was achieved on the current account and the volume of GDP grew rapidly. In comparison with other countries, too, the performance of the Dutch economy in these years was satisfactory. This was achieved in spite of the fact that the guilder was kept linked to the gold. Leaving the gold in September 1936 appears, by hindsight, to have been a mistake. The 1937 expansion that followed this devaluation was highly inflationary and the conclusion seems warranted that the relative severeness of the 1938 recession was a reaction to these pressures. It looks like retaining the gold standard in 1933/34 was not as wrong as it has long been considered, whereas abandoning the gold in 1936 was less beneficial than traditionally supposed.

The composition of imports and exports

The present publication is the first to provide deconsolidated data on imports and exports of services in the interwar period. In table 3.10 these are presented both as a percentage of total imports and exports and as a percentage of the GDP.

Table 3.10 Imports and exports of services

	Percentage of total imports and exports				Percentage of GDP			
	Imports		Exports		Imports		Exports	
		+50		+50		+50		+50
	%							
1921-24	10.2	12.3	25.7	19.5	4.9	5.6	10.0	9.2
1925-29	8.9	12.1	20.8	17.9	4.5	5.7	9.2	8.7
1930-34	10.0	12.4	24.0	15.8	3.2	6.8	6.1	9.1
1935-39	14.1	11.6	30.1	15.0	4.1	6.9	7.8	9.7
1921-29	9.4	12.2	23.0	18.7	4.7	5.6	9.6	8.9
1930-39	12.1	12.3	27.1	15.7	3.6	6.8	7.0	9.2
1921-39	10.8	12.3	25.1	17.7	4.1	6.0	8.2	9.0

The differences between the interwar period and the recent past are remarkably small. In the interwar period, imports of services constituted some 11% of total imports, in the period from 1969 onward this was 12%. In case of exports, the difference is somewhat larger: 25% vs. 18%. These figures, however, underestimate the importance of trade in services for the balance of payments and the GDP. This is because in case of services value added constitutes almost 100% of production value. In production of export goods intermediate use is much higher, in particular intermediate use of imported goods. Therefore, the importance of imports and exports of services is brought out more clearly by relating them to GDP instead of to total trade. Doing this, it still turns out that there is no change from the interwar period. This is surprising in view of the frequently voiced opinion as though we have moved from an industrial economy to a service economy. This shift is not evident as far as economic relations with the rest of the world are concerned. It should be noted, though, that international trade in banking services is not recorded in the national accounts.

In the thirties the share of services in total exports was much higher than in the twenties; in contrast, in the eighties it was lower than in the seventies (even if the increased exports of oil and gas would be taken into account).

But in percents of the GDP things are the other way around. Apparently, exports in services are less sensitive to trends in total world trade than exports of goods.

Table 3.11 shows the composition of foreign trade in goods. In case of imports the breakdown is by type of goods, in case of exports by industry group of origin.

Table 3.11 Composition of foreign trade in goods

	Imports						Exports[1]					
	Fuels & raw materials		Investment goods		Consumption goods		Agric. & fishing		Mining & fuels prod.		Manuf.	
	+50		+50		+50		+50		+50		+50	
	% total imports of goods						% total exports of goods					
1921-29	75.7	70.3	6.8	10.5	17.6	19.2	13.9	6.7	2.9	3.7	78.9	80.2
1930-39	73.3	74.2	8.8	8.5	17.9	17.3	16.7	6.1	4.2	7.7	75.6	74.5
1921-39	74.4	71.6	7.8	9.8	17.7	18.5	15.4	6.5	3.6	5.1	77.1	78.2

[1] Percentages do not add-up to 100 because re-exports and exports of which the industrial origin is unknown have not been included.

Only two changes of any size have occured since the interwar period: the importance of the exports of unprocessed agricultural products declined and that of mining and fuels production increased. However, the share of manufacturing industries in exports did not change and neither did the composition of imports. Thus the structure of foreign trade did not change too much if it is measured at this rather aggregate level. This conclusion coincides with the one drawn by van Bochove and Zijlmans (1984), who show that the structure of the 1938 input-output table shows remarkable similarities with that of the 1981 table.

3.4 Government expenditure

Budget cuts are a core issue in both current economic news and the traditional economic history of the thirties. To analyse government income and outlay effectively, in relation to the macro-economic situation, one needs a full-fledged set of (national) accounts for the government sector. In the present research project these accounts have not yet been compiled. But we did compile the separate time series of government consumption and investments that were lacking until now. This section discusses them.
In order to give at least an impression of the budgetary situation, we first describe the surplus/deficit of the central government from 1900 onwards.

The balance of payments and receipts of the central government.

The surplus/deficit of the central government according to the government's financial accounts is given in table 3.12 for periods of five years each (six in case of 1940-45), as percentage of the GDP. Sources and methods are given in appendix 3, well as the annual data.

Table 3.12 Surplus/deficit of the central government, 1900-1985

	In % of the GDP				
1900-04	0.1	1935-34	-2.2	1960-64	-0.8
1905-09	0.1	1935-39	-0.9	1965-69	-2.1
1910-14	-0.9	1940-45	-41.8	1970-74	-0.9
1915-19	-5.8	1946-49	1.1	1975-79	-3.3
1920-24	-2.2	1950-54	5.2	1980-84	-6.3
1925-29	1.9	1955-59	-0.4	1985	-6.3

The data in table 3.12 immediately clarify one of the main reasons for budget cuts in both the thirties and the eighties: increasing deficits of the central government. Before the first world war there usually was a balanced budget. During the first world war (in which the Netherlands remained neutral) a deficit occurred, of about 6% of the GDP; the highest deficit occurred in 1918:

11%. After the war the deficit was reduced rapidly, though in 1922 it still amounted to 6.4% of the GDP; this value was to remain a peacetime high for a very long time. In 1924 a balanced budget had been achieved. In the second part of the twenties the rapid growth of GDP was accompanied by a surplus of the central government. As a consequence, the government's debt was reduced from 57% of the GDP (3 billion guilders) at the end of 1923 to 38% (2.4 billion guilders) at the end of 1930.

After 1930 a deficit was incurred again; by 1933 its value was over 5% of the GDP. The year after, the policy of budget cuts led to a drastic reduction of the deficit, viz. to less than one percent of the GDP. Yet the budget policy in the remainder of the thirties was not so strict that a balanced budget was obtained throughout these years. In 1935, for instance, there was a deficit of 2% of the GDP; subsequently increased military spending led again to a 2% deficit in 1939.

During the second world war, when Germany occupied the country, government expenditure was financed mostly by deficit spending. After the war, there still were sizeable deficits in 1946 and 1947, though, as percentage of the GDP, these were slightly below the 1922 peacetime high. Then came a period (just as after the first world war) of surplusses; this period lasted until the second half of the fifties. As a result, the debt was reduced from 200% of the GDP (26 billion guilders) at the end of 1947 to 50% (18 billion guilders) at the end of 1958.

From the second part of the fifties onward, there was a steadily rising deficit; in the second part of the sixties it was 2% of the GDP, barely below the level of the first half of the thirties. This happened in spite of the fact that economic growth was proceeding at a pace that is (as far as data are available) unprecedented in the history of the country. Due to a once-only surplus in 1973, the average deficit in the first period of the seventies was lower than in 1965-69, but the structural growth of the deficit was not really altered: in the second part of the seventies its average value was higher than in any earlier peacetime five-year period in the twentieth century.

This all-time high was promptly surpassed in the early eighties. The average deficit of 6.3% of the GDP even exceeded the percentage deficit during the

first world war. The 7.6% deficit of 1982 broke the 6.4% peacetime record that had been established exactly sixty years before; in 1983 the deficit was even higher: 8.5% of the GDP.

The movement of the balance of central government receipts and payment in the interwar period can be concisely characterized as moderately Keynesian: a deficit during post world war I recovery, a surplus during the steady growth of the second part of the twenties, a deficit in the recession of the first part of the thirties and a smaller deficit during the subsequent recovery. This picture is at odds with the traditional views as though the budget policy in the thirties was one of ruthless cuts.

In the recent past, in contrast, the movement of the budget cannot be described as either Keynesian or conservative; rather, there simply is a steady growth of the deficit that (after the 1973 interruption) accelerated in the seventies and began to be checked by the mid-eighties. One might conclude that a Keynesian pattern was achieved only before Keynes' macro-economics were commonly known.

Of course, these conclusions are only valid for the balance of central government's expenditure and receipts. They can only be interpreted correctly if the level of expenditure is considered as well. Table 3.13 gives the expenditure of general government (i.e. central plus local government) as defined in the national accounts, for the interwar period and the period from 1969 onwards.

The movement of expenditure (as percentage of the GDP) is no different from that of the balance of central government's payments and receipts. In the first part of the twenties expenditure was relatively high, though it fell from 14% in 1921 to 11% in 1926. In 1929 it was slightly up again, to 12%.

Table 3.13 The value of government expenditure

Interwar period		Recent past	
	In % of GDP		
1921-24	12.9	1969-74	20.0
1925-29	11.2	1975-74	21.1
1930-34	14.2	1980-84	20.4
1935-39	12.7	1985	18.9
1921-29	12.0	1969-79	20.5
1930-39	13.5	1980-85	20.2
1921-39	12.7	1969-85	20.4

Then it continued to grow to 15% in 1931. In 1933 there was a decrease to 14% and in 1937 it was back on its 1929 level of 12% of GDP; thereafter it rose slightly. Thus one may conclude that the movement of government expenditure was indeed moderately Keynesian: though the administration cut-down on expenditure this cut was not so severe that, on average, expenditure was lower in the thirties than in the second part of the twenties.

In the recent period, in contrast, the changes in the level of government expenditure are at variance with those in the balance of payments and receipts of the central govenment: expenditure steadily fell from 21% of GDP in 1979 to 19% in 1985, whereas the deficit increased. This discrepancy is due mainly to decreases of the value of direct taxes and to increases in transfers to enterprises.

The most important change in the composition of government expenditure since the second world war, is a decrease in the share of government investment. This is evident from table 3.14.

Table 3.14 Government consumption and investment as percentage of GDP

Interwar period			Fifties & Sixties			Recent past		
	Cons.	Inv.		Cons.	Inv.		Cons.	Inv.
	% GDP							
1921-24	8.4	4.6	1948-54	13.0	3.4	1969-74	15.7	4.4
1925-29	6.9	4.2	1955-59	14.0	3.8	1975-79	17.6	3.5
1930-34	8.4	5.8	1960-64	14.0	4.3	1980-84	17.5	3.0
1935-39	8.0	4.6	1965-68	15.1	4.6	1985	16.3	2.6
1921-29	7.6	4.4	1948-59	13.4	3.6	1969-79	16.5	4.0
1930-39	8.2	5.2	1960-68	14.5	4.4	1980-85	17.3	2.9
1921-39	7.9	4.8	1948-68	13.9	3.9	1969-85	16.8	3.6

In the thirties, government investment increased considerably as a percentage of the GDP. After the war, its level was generally below that before the war; since 1969 there was a very substantial decrease. The volume growth of government investment (cf. appendix 3) had a similar pattern.

3.5 Private expenditure

Surprisingly, the volume growth of private consumption was almost the same in the interwar period and in the recent past; the same holds for private investment. This is shown in table 3.15. Within these periods there were, however, substantial differences: in the interwar period, consumption growth was more stable than in the recent period; in case of investment, the reverse holds true.

Table 3.15 Volume growth of private investment and consumption

Interwar period				Recent past			
	Invest.	Cons.	GDP		Invest.	Cons.	GDP
	%				%		
1922-24	-4.2	3.9	5.2	1970-74	2.4	4.4	4.4
1925-29	7.9	3.2	4.4	1975-79	1.3	4.1	2.4
1930-34	-5.7	1.4	-1.5	1980-84	-2.1	-0.7	0.5
1935-39	2.6	2.3	3.6	1985	4.9	2.1	1.5
1922-29	3.2	3.5	4.7	1970-79	1.9	4.2	3.4
1930-39	-1.6	1.8	1.0	1980-85	-1.0	-0.2	0.7
1922-39	0.5	2.5	2.7	1970-85	0.8	2.5	2.4

Contrary to the popular believe as though the early thirties were a period of extreme impoverishment, the volume of private consumption did not fall; in fact, it grew by an average 1.4% annually from 1930-34 (population grew at the same rate), in spite of a 1.5% average decrease of GDP.
This may have been caused by the exchange rate policy, which kept the price of imports low. Thus the price of consumption fell enough to affect the decline of the value of consumption. In contrast, in the period 1980-84 the volume of private consumption fell by an average half percent annually, at a rate of population growth of 0.5%.

Appendix 1 Differences between the revised data and the ZWO/CBS data 1921-38

Table A.1.1 Value added and national income

	Wages & social charges	Operating surplus	Net dom. product at factor cost	Indirect taxes less subsidies	Net dom. product at market prices	Consumption of fixed capital
	1	2	3	4	5	6
	mln guilders					
1921	-13	89	76	-33	43	-600
1922	-23	172	149	-31	118	-497
1923	-10	47	37	-23	14	-429
1924	-6	110	104	0	104	-411
1925	-4	135	131	0	131	-397
1926	-8	203	195	0	195	-391
1927	3	250	253	0	253	-389
1928	-5	220	215	0	215	-389
1929	-2	182	180	0	180	-392
1930	3	182	185	0	185	-353
1931	25	172	197	-3	194	-302
1932	34	148	182	-17	165	-245
1933	38	116	154	-29	125	-228
1934	47	13	60	-35	25	-227
1935	51	65	116	-38	78	-223
1936	58	72	130	-38	92	-219
1937	46	49	95	-39	56	-233
1938	36	36	72	-23	49	-227

Table A.1.1 (end)

	GDP at market prices	Net primary inc. from abroad	Net national inc. at factor cost	Net national income at market prices	GNP at market prices
	7	8	9	10	11
	mln guilders				
1921	-557	-46	30	-3	-603
1922	-379	-49	100	69	-428
1923	-415	-44	-7	-30	-459
1924	-307	-47	57	57	-354
1925	-266	-49	82	82	-315
1926	-196	-51	144	144	-247
1927	-136	-53	200	200	-189
1928	-174	-59	156	156	-233
1929	-212	-61	119	119	-273
1930	-168	-60	125	125	-228
1931	-108	-47	150	147	-155
1932	- 80	-43	139	122	-123
1933	-103	-45	109	80	-148
1934	-202	-42	18	-17	-244
1935	-145	-37	79	41	-182
1936	-127	-38	92	54	-165
1937	-177	-43	52	13	-220
1938	-178	-45	27	4	-223

column 3 = column 1 + column 2
column 5 = column 3 + column 4
column 7 = column 5 + column 6
column 9 = column 3 + column 8
column 10 = column 5 + column 8
column 11 = column 7 + column 8

Table A.1.2 Net national product account

	Net domestic product at market prices	Imports of goods (CIF)	Private consumption	Government expenditure
	1	2	3	4
	mln guilders			
1921	43	27	-19	80
1922	118	0	-20	65
1923	14	3	-16	34
1924	104	-3	14	24
1925	131	-5	-40	18
1926	195	-4	-6	9
1927	253	-4	17	17
1928	215	-1	1	26
1929	180	9	-3	33
1930	185	3	-32	43
1931	194	3	-42	49
1932	165	7	-10	44
1933	125	6	-17	31
1934	25	10	-35	19
1935	78	17	-13	11
1936	92	19	-25	-2
1937	56	5	12	15
1938	49	6	12	3

Table A.1.3 Gross national product account

	GDP at market prices	Imports of goods (CIF)	Private consumption	Government consumption	Gross government investment
	1	2	3	4	5
	mln guilders				
1921	-557	27	-19	33	67
1922	-379	0	-20	35	50
1923	-415	3	-16	21	32
1924	-307	-3	14	17	25
1925	-266	-5	-40	14	22
1926	-196	-4	-6	15	12
1927	-136	-4	17	15	20
1928	-174	-1	1	19	24
1929	-212	9	-3	25	27
1930	-168	3	-32	23	40
1931	-108	3	-42	18	52
1932	-80	7	-10	8	57
1933	-103	6	-17	5	46
1934	-202	10	-35	-3	41
1935	-145	17	-13	2	28
1936	-127	19	-25	-3	19
1937	-177	5	12	14	19
1938	-178	6	12	-9	31

Table A.1.2 (end)

	Net private investment in fixed assets	Change in stocks	Sum of 5a & 5b	Exports of goods (FOB)	Net exports of services	Net total expenditure
	5a	5b	5	6	7	8
	mln guilders					
1921	581	-603	-22	17	14	70
1922	493	-455	38	9	26	118
1923	442	-474	-32	9	22	17
1924	430	-409	21	29	13	101
1925	418	-278	140	1	7	126
1926	421	-234	187	0	1	191
1927	411	-204	207	0	8	249
1928	407	-225	182	4	1	214
1929	410	-280	130	16	13	189
1930	369	-198	171	9	-3	188
1931	313	-137	176	4	10	197
1932	257	-130	127	3	8	172
1933	250	-141	109	2	6	131
1934	255	-216	39	2	10	35
1935	263	-176	87	5	5	95
1936	267	-138	129	5	4	111
1937	253	-246	7	13	14	61
1938	260	-242	18	12	10	55

Column 8 = columns 3-7 = columns 1 and 2.

Table A.1.3 (end)

	Gross private investment in fixed assets	Change in stocks	Exports of goods (FOB)	Net exports of services	Gross total expenditure
	6	7	8	9	10
	mln guilders				
1921	-39	-603	17	14	-530
1922	-24	-455	9	26	-379
1923	-6	-474	9	22	-412
1924	1	-409	29	13	-310
1925	3	-278	1	7	-271
1926	12	-234	0	1	-200
1927	4	-204	0	8	-140
1928	1	-225	4	1	-175
1929	-1	-280	16	13	-203
1930	-4	-198	9	-3	-165
1931	-10	-137	4	10	-105
1932	-9	-130	3	8	-73
1933	2	-141	2	6	-97
1934	9	-216	2	10	-192
1935	21	-176	5	5	-128
1936	30	-138	5	4	-108
1937	2	-246	13	14	-172
1938	14	-242	12	10	-172

Column 10 = columns 3-9 = columns 1 and 2.

Appendix 2 Sources, methods and additional data relating to section 3

Section 3 contains a number of tables with data that are not taken from the national accounts for 1969-1985 or the interwar period. This appendix indicates their sources and methods; in addition the annual OECD growth rates are given as well as the annual surplus or deficit of the central government.

Data on OECD economic growth

The volume data on the GDP of the OECD countries 1969-85 have been taken from the OECD Economic Outlook of December 1986. Volume data for groups of countries were obtained on the basis of the 1980 values of GDP in current prices, converted into dollars with 1980 exchange rates (source: OECD, National accounts, main aggregates, volume 1, 1960-84, Paris). These were extrapolated to 1969 and 1985 by means of the volume growth rates for the individual countries (Thus the weights of the individual countries were adjusted annually).

Most of the 1921-39 volume data are based on Maddison (1982). The latter provides data that may be considered as approximations of constant price GDP. Maddison corrects for border changes within the interwar period. Supplementary volume data have been taken from Mitchell (1980), in particular for Greece and Spain. Data for country groups have been calculated by extrapolating the 1930 levels forward and backwards, using the individual countries' growth rates. Data on the 1930 level of GDP have mostly been taken from Mitchell (1980). The latter provides data for aggregates (not necessarily the GDP) in national currencies. The aggregates closest to GDP have, without additional corrections, been converted into guilders by means of the average exchange rates in Amsterdam, reported in the statistical yearbooks of the CBS. In case of France, Mitchell provides no value data, just the GDP at 1938 prices. These have been converted into 1930 prices by means of the average of the wholesale price index and the cost of living index given by Mitchell.

The 1938 GDP of the US has been taken from 'Historical statistics of the United States' (Bicentennial edition, 1975). Canadian data have been taken from UNO (1948), as well as those for Australia and Japan.

Table A.2.1 provides the volume data for 1921-39 and 1969-85 for the countries and for the groups of countries distinguished in section 3. In the calculation of growth rates for country groups, missing data for individual countries have been assigned the average value of the countries in the same group for which data were available.

Data in Table 3.6

Data on dividends received from the Netherlands East-Indies are from Gonggrijp (1952). The unit-value series for non-industrial products, 1922-38 is taken from UNCTAD's Handbook of International Trade and Development Statistics, 1972, p. 42. This is a dollar series, 1963=100. It has been converted to a 1928=100 series first and has next been converted into a sterling series by means of the index of the dollar-sterling exchange rate in Amsterdam (CBS Statistical Yearbooks). The same source was employed in case of the two exchange rates in table 3.6. The unit value series for imports of mineral fuels by developed market economies is taken from various issues of the UN Yearbook of International Trade Statistics and from the December 1986 issue of the UN Monthly Bulletin of Statistics.

Data in Table 3.12

Data on the surplus/deficit of the central government are from 'Tachtig [vijfentachtig] jaren statistiek in tijdreeksen' (CBS), chapter R, column 18. For 1900-20 these were supplemented with data from column 16, chapter R of 'Zestig jaren statistiek in tijdreeksen' in order to achieve comparability with the post 1920 data.

The GDP series employed in calculating the table 3.12 data are those from the present paper for 1921-39 and 1969-85. For 1900-20 the historical series of net national product (1918-20) and net domestic product (1900-17) were transformed into GDP data by means of an approximative calculation. The 1948 figure is the one to be published in the forthcoming 1986 National Accounts. The data for 1949-1968 have also been taken from that publication, but have been corrected for the 1968/1969 difference in level by assuming that this difference declines to nil in 1948. The 1940-47 data are intrapolated between 1939 and 1948 on the basis of net national income at factor cost data for this period.

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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: Aspecccts 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 columns 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.

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 of the UN System of National Accounts. The first is its 'size': reviewing this issue, it can be concluded that the next SNA should contain an integrated meso-economic statistical system. It is essential that the next SNA contains an institutional system without the imputations and attributions that pollute the 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 chains 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 processing 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, Oudde-ken, 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 (1993).
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. Net recording is in general to be preferred. An exception has to be made when processing amounts to a complete production process, e.g. oil refineries in the Netherlands.

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 employ-- ment 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**, Kazemier, Brugt 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.

NA/43 **Valuation principles in supply and use tables and in the sectoral accounts**, Keuning, Steven J. (1991).
In many instances, the valuation of transactions in goods and services in the national accounts poses a problem. The main reason is that the price paid by the purchaser deviates from the price received by the producers. The paper discusses these problems and demonstrates that different valuations should be used in the supply and use tables and in the sectoral accounts.

NA/44 **The choice of index number formulae and weights in the National Accounts. A sensitivity analysis based on macro-economic data for the interwar period**, Bakker, Gert P. den (1991).
The sensitivity of growth estimates to variations in index number formulae and weighting procedures is discussed. The calculations concern the macro-economic variables for the interwar period in the Netherlands. It appears, that the use of different formulae and weights yields large differences in growth rates. Comparisons of Gross Domestic Product growth rates among countries are presently obscured by the use of different deflation methods. There exists an urgent need for standardization of deflation methods at the international level.

NA/45 **Volume measurement of government output in the Netherlands; some alternatives**, Kazemier, Brugt (1991).
This paper discusses three alternative methods for the measurement of the production volume of government. All methods yield almost similar results: the average annual increase in the last two decades of government labour productivity is about 0.7 percent per full-time worker equivalent. The implementation of either one of these methods would have led to circa 0.1 percentage points higher estimates of economic growth in the Netherlands.

NA/46 **An environmental module and the complete system of national accounts**, Boo, Abram J. De, Peter R. Bosch, Cor N. Gorter and Steven J. Keuning (1991).
A linkage between environmental data and the National Accounts is often limited to the production accounts. This paper argues that the consequences of economic actions on ecosystems and vice versa should be considered in terms of the complete System of National Accounts (SNA). One should begin with relating volume flows of environmental matter to the standard economic accounts. For this purpose, a so-called National Accounting Matrix including Environmental Accounts (NAMEA) is proposed. This is illustrated with an example.

NA/47 Deregulation and economic statistics: Europe 1992, Bos, Frits (1992).
The consequences of deregulation for economic statistics are discussed with a view to Europe 1992. In particular, the effects of the introduction of the Intrastat-system for statistics on international trade are investigated. It is argued that if the Statistical Offices of the EC-countries do not respond adequately, Europe 1992 will lead to a deterioration of economic statistics: they will become less reliable, less cost effective and less balanced.

NA/48 The history of national accounting, Bos, Frits (1992).
At present, the national accounts in most countries are compiled on the basis of concepts and classifications recommended in the 1968-United Nations guidelines. In this paper, we trace the historical roots of these guidelines (e.g. the work by King, Petty, Kuznets, Keynes, Leontief, Frisch, Tinbergen and Stone), compare the subsequent guidelines and discuss also alternative accounting systems like extended accounts and SAMs.

NA/49 Quality assessment of macroeconomic figures: The Dutch Quarterly Flash, Reininga, Ted, Gerrit Zijlmans and Ron Janssen (1992).
Since 1989-IV, the Dutch Central Bureau of Statistics has made preliminary estimates of quarterly macroeconomic figures at about 8 weeks after the end of the reference quarter. Since 1991-II, a preliminary or "Flash" estimate of GDP has been published. The decision to do so was based on a study comparing the Flash estimates and the regular Quarterly Accounts figures, which have a 17-week delay. This paper reports on a similar study with figures through 1991-III.

NA/50 Quality improvement of the Dutch Quarterly Flash: A Time Series Analysis of some Service Industries, Reininga, Ted and Gerrit Zijlmans (1992).
The Dutch Quarterly Flash (QF) is, just like the regular Quarterly Accounts (QA), a fully integrated statistic based on a quarterly updated input-output table. Not all short term statistics used to update the QA's IO-table are timely enough to be of use for the QF, so other sources have to be found or forecasts have to be made. In large parts of the service industry the latter is the only possibility. This paper reports on the use of econometric techniques (viz. series decomposition and ARIMA modelling) to improve the quality of the forecasts in five parts of the service industry.

NA/51 A Research and Development Module supplementing the National Accounts, Bos, Frits, Hugo Hollanders and Steven Keuning (1992).
This paper presents a national accounts framework fully tailored to a description of the role of Research and Development (R&D) in the national economy. The framework facilitates to draw macro-economic conclusions from all kinds of data on R&D (also micro-data and qualitative information). Figures presented in this way can serve as a data base for modelling the role of R&D in the national economy.

NA/52 The allocation of time in the Netherlands in the context of the SNA; a module, Kazemier, Brugt and Jeanet Exel (1992).
This paper presents a module on informal production, supplementing the National Accounts. Its purpose is to incorporate informal production into the concepts of the SNA. The relation between formal and informal production is shown in the framework of a Social Accounting Matrix (SAM). To avoid a controversial valuation of informal production, the module constists of two SAMs. One expressed in actual prices with informal labour valued zero, and one which expresses the embedded informal labour input measured in terms of hours worked.

NA/53 National Accounts and the environment: the case for a system's approach, Keuning, Steven J. (1992).
The present set of main economic indicators should be extended with one or a few indicators on the state of the environment. This paper lists various reasons why a so-called Green Domestic Product is not suitable for this purpose. Instead, a system's approach should be followed. A National Accounting Matrix including Environmental Accounts (NAMEA) is presented and the way to derive one or more separate indicators on the environment from this information system is outlined.

NA/54 How to treat multi-regional units and the extra-territorial region in the Regional Accounts?, De Vet, Bas (1992).
This paper discusses the regionalization of production and capital formation by multi-regional kind-of-activity units. It also examines the circumstances in which a unit may be said to have a local kind-of-activity unit in the extra-territorial region and what should be attributed to this "region".

NA/55 A historical Social Accounting Matrix for the Netherlands (1938), Den Bakker, Gert P., Jan de Gijt and Steven J. Keuning (1992).
This paper presents a Social Accounting Matrix (SAM) for the Netherlands in 1938, including related, non-monetary tables on demographic characteristics, employment, etc. The distribution of income and expenditure among household subgroups in the 1938 SAM is compared with concomittant data for 1987.

NA/56 Origin and development of the Dutch National Accounts, Den Bakker, Gert P. (1992).
This paper describes the history of national accounting in the Netherlands. After two early estimates in the beginning of the nineteenth century, modern national accounting started in the 1930s on behalf of the Tinbergen model for the Dutch economy. The development spurred up after World War II to provide data to the government for economic planning purposes. In the 1980s, the development was towards a flexible and institutional approach.

NA/57 Compiling Dutch Gross National Product (GNP); summary report on the final estimates after the revision in 1992, Bos, Frits (1992).
This summary report describes the sources and methods used for compiling the final estimate of Dutch Gross National Product after the revision of the Dutch National Accounts in 1992. Attention is focused on the estimation procedures for 1988. A more extensive report is also available.

NA/58 Major changes and results of the revision of the Dutch National Accounts in 1992, Department of National Accounts (1992, forthcoming).
The revision in 1992 has improved the Dutch National Accounts in three ways. First, new and other data sources have been used, like Production statistics of service industries, the Budget Survey and Statistics on fixed capital formation. Secondly, the integration process has been improved by the use of detailed make- and use-tables instead of more aggregate input-output tables. Thirdly, several changes in bookkeeping conventions have been introduced, like a net instead of a gross registration of processing to order.

NA/59 A National Accounting Matrix for the Netherlands, Keuning, Steven and Jan de Gijt (1992).
Currently, the national accounts typically use two formats for presentation: matrices for the Input-Output tables and T-accounts for the transactions of institutional sectors. This paper demonstrates that presently available national accounts can easily be transformed into a National Accounting Matrix (NAM). This may improve both the transparency and analytic usefulness of the complete set of accounts.

NA/60 Integrated indicators in a National Accounting Matrix including environmental accounts (NAMEA); an application to the Netherlands, De Haan, Mark, Steven Keuning and Peter Bosch (1993).
In this paper, environmental indicators are integrated into a National Accounting Matrix including Environmental Accounts (NAMEA) and are put on a par with the major aggregates in the national accounts, like National Income. The environmental indicators reflect the goals of the environmental policy of the Dutch government. Concrete figures are presented for 1989. The NAMEA is optimally suited as a data base for modelling the interaction between the national economy and the environment.

NA/61 Standard national accounting concepts, economic theory and data compilation issues; on constancy and change in the United Nations-Manuals on national accounting (1947, 1953, 1968 and 1993), Bos, Frits (1993). In this paper, the four successive guidelines of the United Nations on national accounting are discussed in view of economic theory (Keynesian analysis, welfare, Hicksian income, input-output analysis, etc.) and data compilation issues (e.g. the link with concepts in administrative data sources). The new guidelines of the EC should complement those of the UN and be simpler and more cost-efficient. It should define a balanced set of operational concepts and tables that is attainable for most EC countries within 5 years.

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