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**Consumption and energy-requirement:
a time series for households in the
Netherlands from 1948 to 1992**

Kees Vringer
Kornelis Blok

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95016

Department of Science, Technology and Society,
Utrecht University
Padualaan 14
NL-3584 CH Utrecht, The Netherlands

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SUMMARY

The use of fossil energy sources, one of the main causes of CO₂ emissions, increased very fast the past decades. One way of reducing CO₂ emissions is to reduce household energy requirements by influencing the consumption pattern. A household not only uses direct energy in the form of gas, electricity and petrol, but it also uses indirect energy embodied in consumer goods such as food, furniture and services. The aim of this study is to obtain an overview of the changes of the total energy requirement of Dutch households in the past decades.

To obtain an overview of the cumulative energy requirement of an average Dutch household, we combined energy intensities for 1990 with indexed expenditure data from the budget surveys and the National Accounts of the CBS with the annual expenditure of households from 1948 to 1992. In this study we have limited ourselves to take only into account the effect of changes in the consumption and no other changes affecting the energy requirement such as the influence from energy intensity changes of the production sectors.

From the year 1948 to 1988 the total primary energy requirement increased. The rise in energy consumption is mainly due to a rise in household consumption. Furthermore, the increasing share of direct energy consumption in the total energy requirement plays a role. For each consumption category the energy requirement grew from 1948 to 1988. The energy requirement for the consumption categories electricity, household effects, leisure & education and the house grew more than the total energy requirement. The use of petrol grew the quickest, on the average more than 8% per year for the past 40 years. The modifications in the total energy intensity, mainly caused by changes in the share of direct energy consumption, were small in the past four decades. The indirect energy intensity was quite constant.

It should be stressed that in our analysis only the effects of changes in consumption patterns have been taken into account, **not** the effect of modifications (e.g. efficiency improvements) in sectors that deliver goods and services to the households. If the effects of energy intensity changes of the producing sectors in the past decades are taken into account, the rise in energy consumption becomes somewhat smaller than stated above and has even declined from 1981 to 1984.

Taking this into account, we conclude that apart from the variation in the share in the direct energy carriers in past forty years of the direct energy carriers no major trends have been found in more or less energy intensive household consumption patterns.

INTRODUCTION

The use of fossil energy carriers is one of the main causes of CO₂ emissions. One way of reducing CO₂ emissions is to reduce household energy requirements, including the indirect energy requirement consumed via consumer goods such as food, furniture and services. Vringer and Blok (1993) estimated the indirect energy requirement of households in the Netherlands in 1990 to be more than half of the total domestic energy requirement. It is known that the energy requirement of goods and services per financial unit varies per type of expenditure (van Engelenburg et al., 1991). It may be possible to reduce the energy requirement of households by influencing their consumption pattern. It is uncertain whether these consumption patterns should and can be influenced by energy policy.

Before posing such questions, it is useful to have a better understanding of the development of the household energy requirements. Vringer and Blok (1993) give an overview of the structure of the energy requirements of Dutch households for on year, 1990. According to (Ours, 1986) a higher purchasing-power gives the consumer a larger financial freedom with a less predictable consumption pattern. It is interesting to know how the energy requirement for household consumption has changed over the past decades, the consumption per capita, in monetary terms, has grown quickly (CBS, 1991).

The aim of this study is to obtain a time series of the total energy requirement of Dutch households and to obtain the energy requirement per main consumption category of the past decades. In this study we have limited ourselves to take only into account the effect of changes in the consumption and no other changes affecting the energy requirement such as the influence from energy efficiency improvements of the production sectors. To get an impression of the effects of energy efficiency improvements of the producing sectors in the past decades, only a quick calculation of these effects has been made. Furthermore, we attempt to quantify the changes in the energy intensity of the total consumption package. First of all we describe the method and input data. Subsequently, we present the results concerning the energy requirement per household, per capita and for all households in the Netherlands for two time series, 1948 to 1988 and 1980 to 1992 based on different primary data. All monetary quantities are expressed in Dutch guilders (1 Dfl \cong 0.6 US\$ of 1992).

METHOD

The direct household energy requirement is defined as the total primary energy required to obtain energy carriers (petrol, electricity, natural gas). Similarly, the indirect household energy requirement is defined as the total primary energy to obtain all the other products and services included in this study. The total household energy requirement is the sum of the direct and indirect energy requirement (Vringer and Blok, 1993). The energy intensity of a product is defined as the total primary energy requirement of the product divided by the total consumer price of the product and is expressed in MJ/Dfl (Vringer and Blok, 1993). In the same way the energy intensity of a group of products or of all household expenditures can be calculated.

The household energy requirement can be calculated according to formula (1) as both the expenditure per consumption category i and the energy intensities are known for 1990 of all the consumption categories:

$$E = \sum_{i=1}^c \varepsilon_i * S_i \quad (1)$$

- E = household energy requirement
- ε = energy intensities for 1990
- c = number of consumption categories
- S = expenditure

Since we only consider the changes of the energy requirement caused by shift in the consumption package, we used the energy intensities of 1990 for the whole period. In this way, energy intensity changes (and energy efficiency improvements) of the industrial, transport and distribution sectors are excluded. To eliminate the influence of price changes, the household expenditure is indexed to the price level of 1990.

Finally, to get an impression of the effects of the energy efficiency improvements of the producing sectors in the past decades, the energy requirement per year per consumption category, calculated as described above, is multiplied with a energy intensity factor. This factor is calculated by dividing the energy intensity of the concerning year of the concerning sector (Wilting et al., 1994) by the energy intensity for 1988 of the sector (Wilting et al., 1994). Appendix E shows which consumption categories of the National Accounts (CBS, 1991) are matched with which sector.

INPUT DATA

In this section we start by reviewing our two main sources: the budget surveys and the publication entitled "Private consumption expenditure, price index numbers for the Netherlands 1921-1939 and 1948-1988" and the differences between these two sources. Next, we consider the calculation of the energy requirement for the time series from 1980 to 1992 and for the time series from 1948 to 1988 for all households.

The correction of the energy requirement for temperature fluctuations is discussed next. Finally, the data of the direct energy requirement for heating will be reviewed for both sources.

The *Netherlands Household Budget Surveys*, compiled from 1980 to 1992 by the Central Bureau of Statistics, are based on a survey among a representative sample, varying from 1000 to 3000 Dutch households, whose expenditure was recorded in a detailed manner. In the budget surveys (CBS, 1993b), (CBS, 1993c) and (CBS, 1994a) the annual total consumption of an average household is given, divided into approximately 75 consumption categories for 13 years. More detailed information about the budget surveys can be found in (Vringer and Blok, 1993). The data of "*Private consumption expenditure and price index numbers for the Netherlands 1921-1939 and 1948-1988*" (CBS, 1991) are based on the Dutch National Accounts whose data are based on various sources. About two third of the total value is based on the statistics of the retail trade sales and estimates, which are based on the production of products and services (Buiten, 1993b). For the time series from 1948 to 1988 about 100 categories of consumer goods and services are available. The data for the period from 1969 to 1988 were reviewed by CBS. This means that the classification of goods and services slightly differs between the periods from 1948 to 1969 and from 1969 to 1988. Some goods that have become less important, were combined with other items, while goods with an increased budget share are split off. The year 1969 was used as a linking year. For that year, two sets of consumer expenditure data are available: one based on reviewed, the other one based on unreviewed figures (CBS, 1991).

The budget surveys, based on the annual expenditure of samples representative households, differ from the National Accounts, which is an integration of diverse statistic sources, partly based on data from the Dutch National Accounts. There are three systematic differences between the data from the household budget surveys and the Dutch National Accounts: population, definition and classification differences.

In the National Accounts the 75 consumption categories are not clustered into main consumption categories like the budget surveys. Appendix D shows the

constructed classification of the main consumption categories based on (CBS, 1991). To examine the comparability of the budget surveys and the main consumption categories based on the National Accounts, the expenditures in Dfl per main category for both sources are given in Table 1 for the year 1988 according to (CBS, 1993b) and the National Accounts.

The total expenditure according to the budget surveys for the years 1988 and 1989 is about 16% lower than the total consumption according to the National Accounts. This 16% can be explained for 67% of definition differences, 25% population differences and 8% can not be explained. (Buiten, 1993a)

Table 1 shows a difference in the total expenditure per average household of about 13%, comparable with Buiten (1993a). The large differences between the same main categories of the National Accounts and the budget surveys indicate that the results per main consumption category based on the National Accounts can not be simply compared with the results per main consumption category based on the budget surveys.

Table 1 Expenditure of an average household in Dfl for 1988 according to (CBS, 1993b) and the National Accounts.

Main consumption category	National Accounts	Expenditure Survey
Food	10,268	7,384
House	6,249	7,476
Household effects	3,639	3,692
Clothing and footwear	3,912	2,596
Hygiene and medical care	7,147	5,860
Leisure	5,225	5,587
Other consumption	2,810	675
Transport and communication	3,073	3,258
Heating (gas, liq., sol.)	1,141	1,030
Electricity	796	668
Petrol	1,028	1,479
TOTAL	f 45,290	f 39,705

The energy requirement of Dutch households for the time series 1980-1992 is calculated by combining the energy intensities of 1990 from (Vringer and Blok, 1993) (see appendix A) with data from the budget surveys of 1980 to 1992. To eliminate the influence of price changes, the expenditures given by the budget surveys are indexed according to the calculated price index numbers in appendix B. The energy requirement of the use of natural gas and electricity for the time series from 1980 to 1992 is calculated by multiplying the physical energy intensities for gas and electricity (in MJ/m³ and MJ/kWh) from (Vringer and Blok, 1993) by respectively the used m³ natural gas and the used kWh electricity known from (Teefelen, 1994). The expenditures in the budget surveys are valid for an average household in the Netherlands. To calculate the energy requirement per capita or per household for all the households in the Netherlands, we divided the energy requirement for an average household by the average number of household members (Teefelen, 1994) respectively ((CBS, 1991) for the years 1980 to 1988 and (CBS, 1990b), (CBS, 1992b) and (CBS, 1993d) for the years 1989 to 1992). The total energy intensity (in MJ/Dfl) is calculated by dividing the energy requirement of the average household by the total household expenditure (budget surveys).

The energy requirement of Dutch households for the time series from 1948 to 1988 is calculated in the same way as described for the time series from 1980 to 1992, but the expenditure data for this range are taken from the National Accounts (CBS, 1991). In the National Accounts the total household consumption for the Netherlands can be found for about 100 consumption categories. These consumption categories differ systematically from the data from the budget surveys, used for the time series 1980 to 1992 (Buiten, 1993b). The consumption categories used in the National Accounts also differ from the consumption categories used in (Vringer and Blok, 1993) of which the energy intensities of 1990 are known. In appendix C the consumption categories of the National Accounts are presented with the matched consumption categories and energy intensities of (Vringer and Blok, 1993). To make a better comparison of the time series from 1948 to 1988 with the time series 1980-1992 possible, the consumption categories nr. 4819 'social services', nr. 4820 'contributions institutes of worship' and nr 4821 'government services' are excluded. The price index numbers are taken from the National Accounts. These index numbers are re-indexed to comparable price index numbers of 1990 with the help of price index numbers from (CBS, 1992a). The expenditures from the National Accounts are given for all households in the Netherlands. To calculate the energy requirement per capita or per average household, the energy requirement for all households is divided by the number of inhabitants and the number of households (CBS, 1991) respectively. The total energy intensity (in MJ/Dfl) is calculated by dividing the energy requirement of the

average household by the net household expenditure according to the National Accounts, minus the expenditures for the excluded consumption categories.

To observe a trend in the household energy requirement independent of the outdoor temperature, *the energy requirement for heating is corrected for temperature fluctuations*. Approx. 85% of the total energy requirement for natural gas is used for heating (Zonneveld, 1993). We multiplied for every single year 85% of the energy requirement for the use of natural gas with a climate correction factor. We calculated this factor by dividing the specific number of degree days for that year by the average number of degree days, per year under consideration (Sypkens-Smit, 1993).

In the first decades mainly coal and fuel oil was used for heating. This is why the time series from 1948 to 1988 not only 85% of the energy requirement for natural gas corrected for climate influences, but also 85% of the energy requirement for coal and fuel oil. The climate influence on the energy requirement of fuel oil is neglected for the years 1948 to 1955 and the year 1969 based on unreviewed figures (see input data), because lack of data.

Of the direct energy requirement for natural gas of Dutch households, diverse sources are available for the time series 1980 to 1992. Because the important share of the energy requirement for the use of natural gas, the used source has to be reliable.

To check the consistency of the different sources, in Figure 1 a time series from 1980 to 1992 of the energy requirement for natural gas is plotted, corrected for climate influences. The National Accounts and the budget surveys are based on financial figures. Ref. (Weegink, 1994), (Teefelen, 1994) and (CBS,NEH) are based on physical figures. The energy requirements from the National Accounts and (CBS,NEH) are valid for the total household consumption in the Netherlands. To get the annual energy requirement per (average) household the figures of these sources are divided by the number of households according to the National Accounts (1980 to 1988), and the budget surveys (1990 to 1992).

Differences between the results of these two series can be caused by conversions. E.g.: The energy requirement based on physical figures according to (Teefelen, 1994) and the energy requirement based on financial figures according to the budget surveys, have both the same basic source, but the first is based on the number of m³ natural gas used per average household and the second is based on the amount of money spend by the same average household.

The relative high figures of (Weegink, 1994) can not be explained. It is possible that the sample of households in (CBS, 1994b) encloses a smaller share of flats and larger households.

Because the figures given by (Weegink, 1994) are much higher than the figures of the other sources, and (Teefelen, 1994) is based on the same source as the figures used for the other consumption categories for the time range from 1980 to 1992 (Teefelen, 1994) is used in this study for the time range from 1980 to 1992.

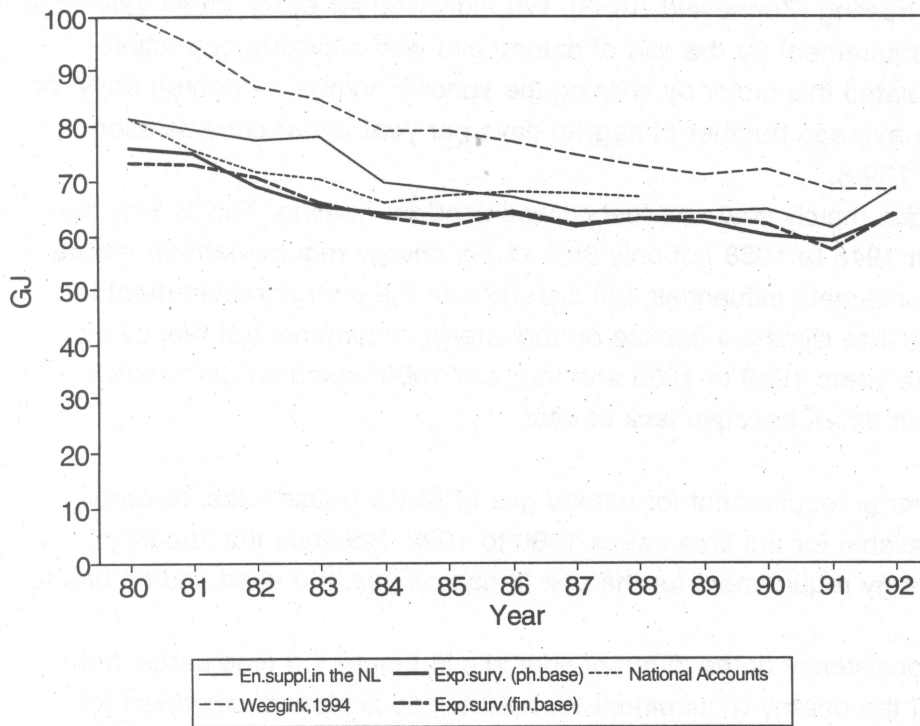


Figure 1 Energy requirement for natural gas of an average Dutch household from 1980 to 1992 derived from different sources.

RESULTS

In this section we discuss the total household energy requirement and the total energy intensity, the ratio between the direct and indirect energy requirement, the changes in the energy requirement of the main consumption categories. Also the effects of the net household income on the total household energy requirement within one year are compared with the development of the average household energy requirement over the past decades.

Figure 2 shows an overview of the trends over the past decades from the total Dutch energy requirement (CBS,NEH), population, number of households and total household expenditure (CBS, 1991), all indexed (1980 = 100).

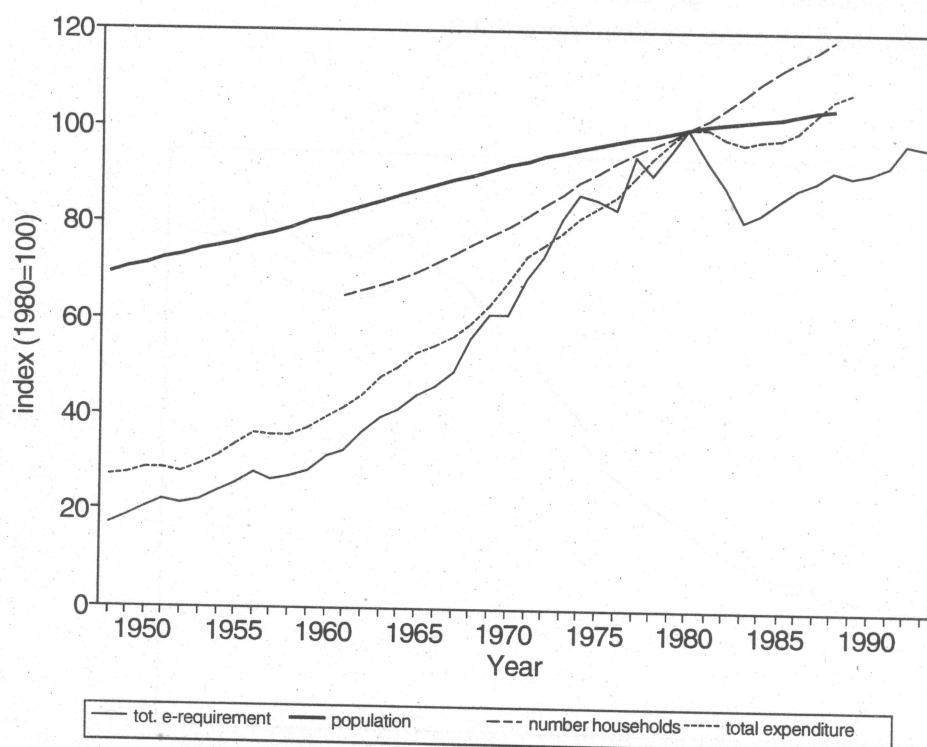


Figure 2 Indexed population, number of households, total household expenditure and the total energy requirement for the Netherlands.

The number of households and the expenditure both grew quickly while the population increased slowly. Also the total energy requirement grew, apart from the period 1980 to 1983.

The total primary energy consumption of the Netherlands is not comparable with the total household energy requirement, because the total primary energy consumption of the Netherlands includes also the energy requirement incorporated in export products and energy efficiency improvements in the industrial, transport and distribution sectors. The total primary energy consumption of the Netherlands

also includes some energy requirement which is neglected (e.g. some collective expenditure) for the time series of the household energy requirement. The total primary energy consumption of the Netherlands also excludes a correction for climate influences.

Total household energy requirement and energy intensity

In the following figures the two time series, 1948 to 1988 (based on the National Accounts) and 1980 to 1992 (based on the budget surveys) are both plotted in the same figure. For the year 1969 two values are presented, one reviewed and one unreviewed. The calculated energy requirement before 1969 is based on unreviewed figures (see also the Section input data).

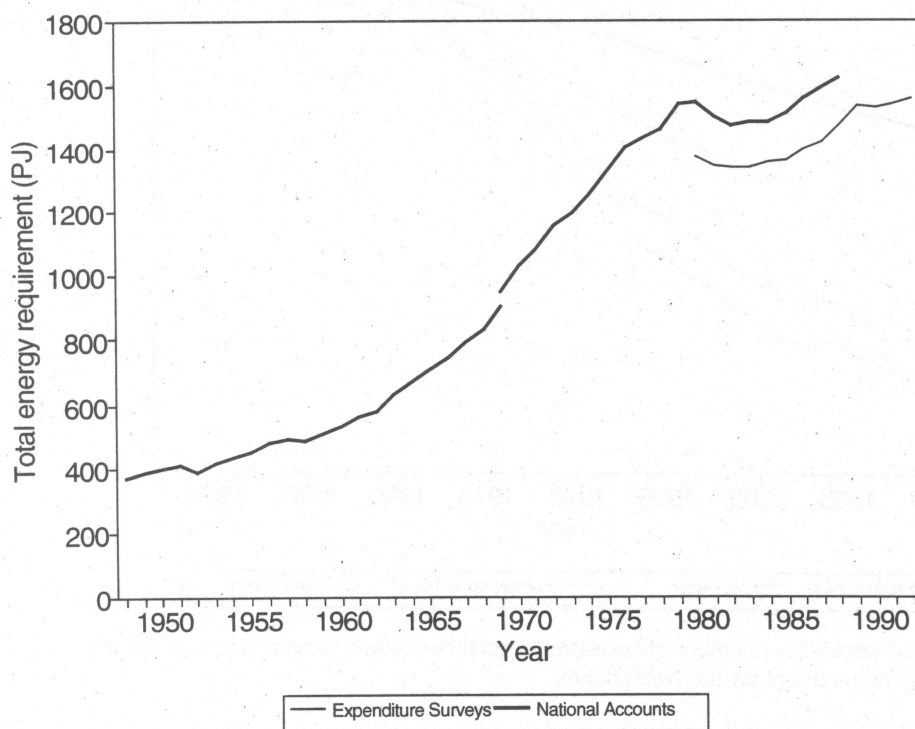


Figure 3 Two time series for the total energy requirement of Dutch households derived from the National Accounts (1948-1988) and the budget surveys (1980-1992).

Figure 3 shows the total primary household energy requirement in the Netherlands for two time series. The energy requirement based on the National Accounts for the years 1980 to 1988 is about 10% lower than the energy requirement based on the budget surveys. The shape of the curves (uncorrected for energy efficiency improvements of the producing sectors) for both series is about the same. The

energy requirement for all households rises between 1948 and 1992, with a small decrease from 1980 to 1985. The rise of the energy requirement from 371 PJ to 1624 PJ (3.9 % per year) what likely should be attributed to the rise of the net (indexed) expenditure and a population growth. In 40 years the total Dutch population grew from 9.7 million to 14.8 million people (1.1 % per year) and the total (indexed) household expenditure grew in the same period from Dfl 67 million to Dfl 266 million (3.6% per year).

Figure 4 shows the total primary household energy requirement in the Netherlands for two time series, plus a range from 1969 to 1988 of the energy requirement *which includes the effects of energy intensity changes of the producing sectors of the concerning two decades.*

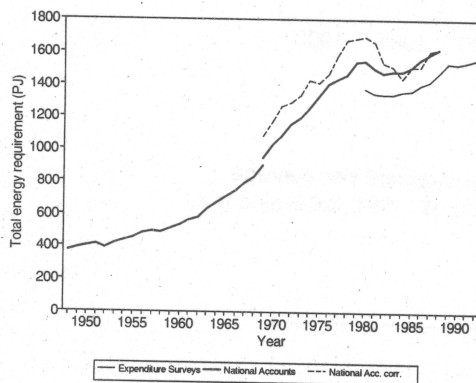


Figure 4 The total energy requirement of Dutch households, ex- and including a correction for energy intensity changes of the producing sectors.

The effects of the energy intensity changes in these two decades of the producing sectors are mainly perceptible from 1972 to 1975 and 1978 to 1984. The changes in the energy intensity of the producing sectors can indicate that energy efficiency improvements have been taken place. However, the changes in the energy intensities of the producing sectors could also have been taken place without a change in consumption because of import/export effects.

Figures 5 and 6 show the energy requirement per average household and per capita, for the same time series as shown in Figure 3. The energy requirement per household shrunk after 1980. This effect is mainly due to the decrease in the number of members per household from 3.6 persons per household in 1961 (derived from the National Accounts) to 2.4 in 1992 (Teefelen, 1994).

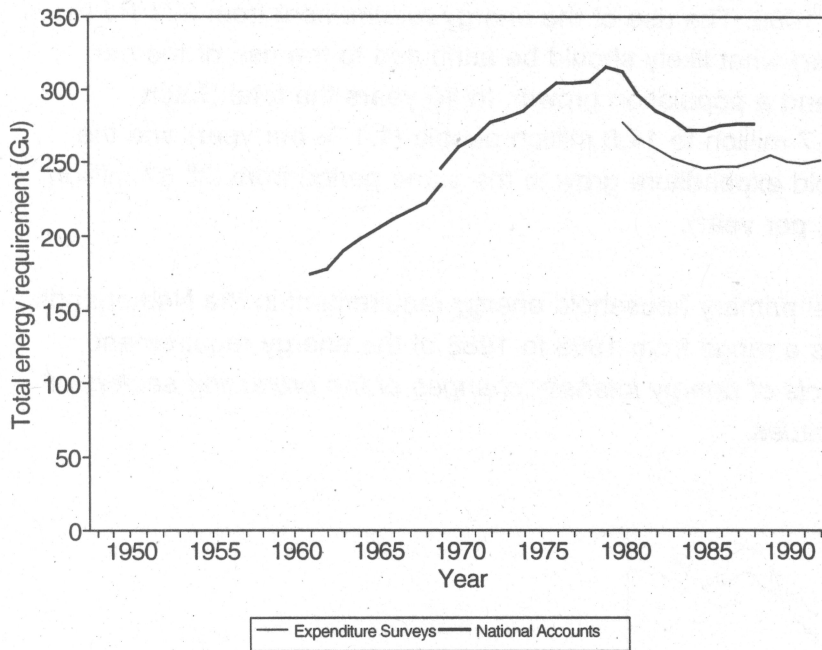


Figure 5 Two time series for the total household energy requirement per average Dutch household. Derived from the National Accounts (1961-1988) and the budget surveys (1980-1992).

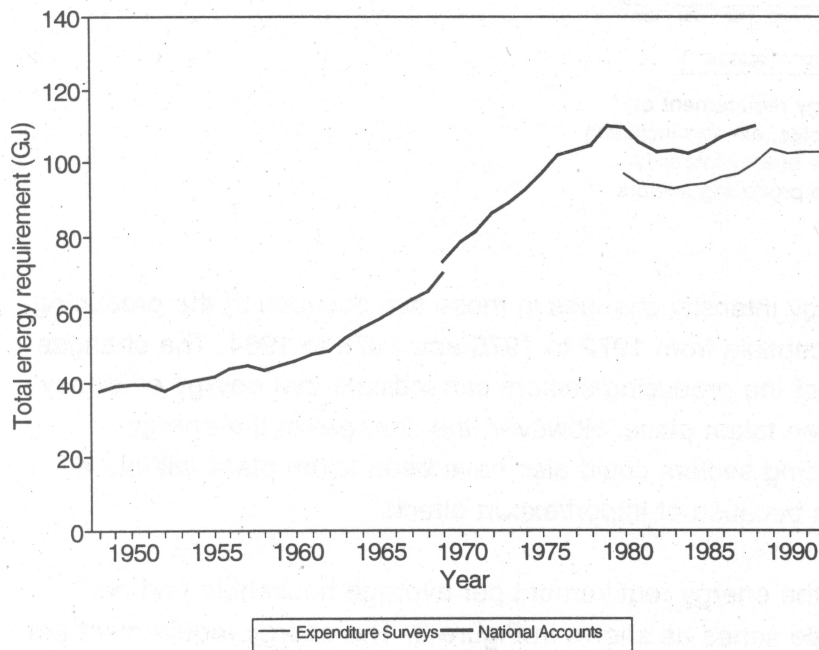


Figure 6 Two time series for the total household energy requirement per capita. Derived from the National Accounts (1961-1988) and the budget surveys (1980-1992).

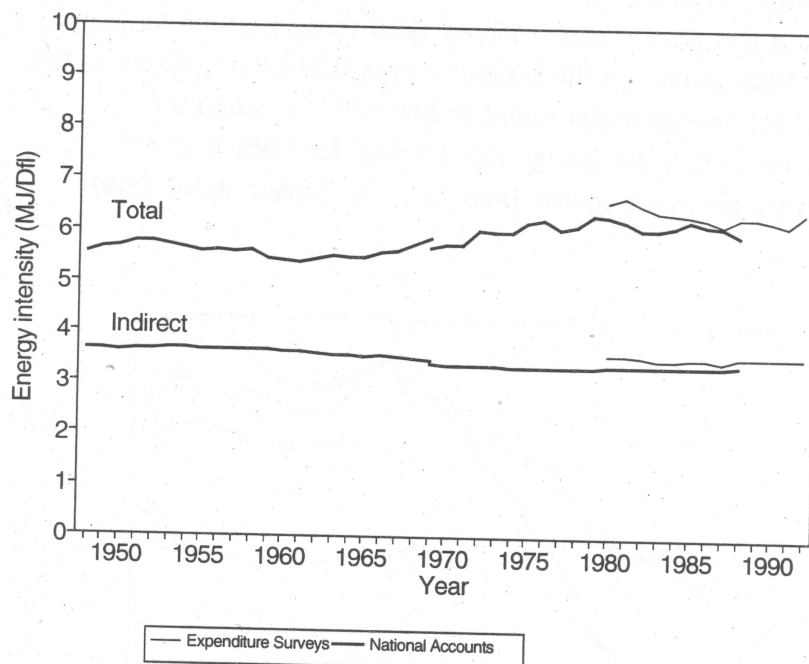


Figure 7 Two time series of the average energy intensity for the total household expenditure. Derived from (CBS, 1991) (1948-1988) and the budget surveys (1980-1992).

The development of the average energy intensity for the total household expenditure from 1948 to 1992 is shown in Figure 7. The energy intensity is quite stable. The indirect energy intensity is even more stable than the total energy intensity; it only declined very slightly in 40 years for the time series based on the National Accounts.

The shift in the total energy intensity can be caused by two effects, a shift from the share of the direct energy requirement in the total energy requirement, or a shift in the (in)direct energy intensity. If the proportion direct / indirect energy requirement is assumed to be the same in 1988 as it was in 1948, the total energy intensity in 1988 would be 0.6 MJ/Dfl lower than calculated here. If the direct and indirect energy intensity is assumed to be the same in 1988 as it was in 1948, the total energy intensity in 1988 would be 0.2 MJ/Dfl higher than calculated here.

The average energy intensity which is calculated for the years 1980 to 1988, based on the budget surveys, is about 0.2 MJ/Dfl higher than the energy intensity over the same years based on the National Accounts.

Again it should be stressed that the presented changes in the energy requirements or energy intensities in the course of the years are exclusively the result of changes in the household consumption package. Price changes are eliminated and energy efficiency improvements of the industrial, transport and distribution sectors are neglected. All guilders have been indexed to the level of 1990.

Direct and indirect energy requirement

In the following figures the two time series, 1948 to 1988 (based on the National Accounts) and 1980 to 1992 (based on the budget surveys) are both plotted in the same figure. The calculated energy requirement before 1969 is based on unreviewed figures and the calculated energy requirement for 1969 and the following years is based on reviewed figures (see also the Section input data).

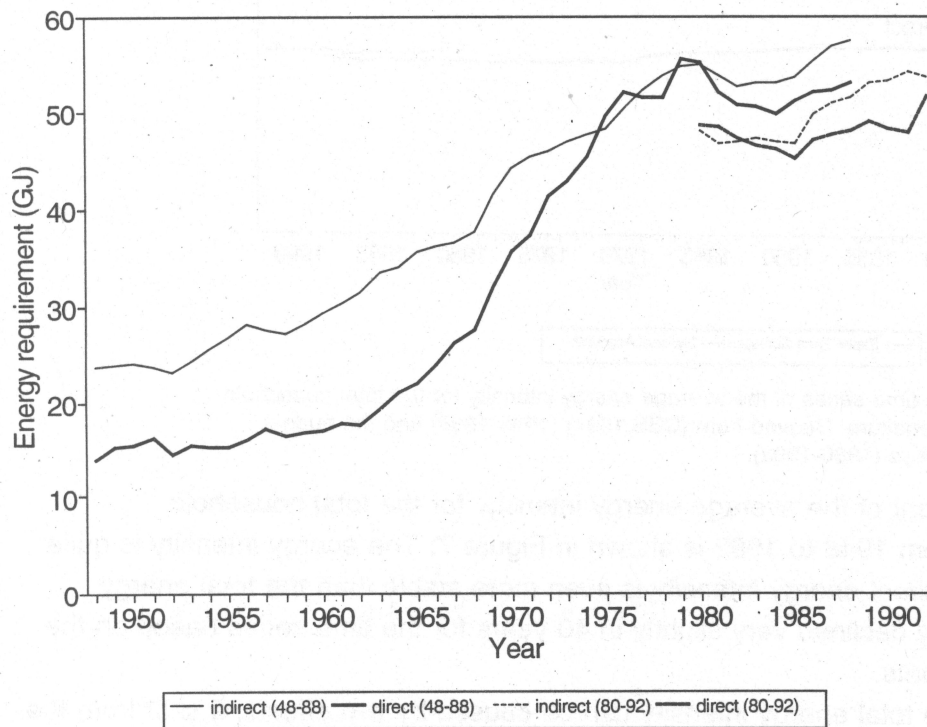


Figure 8 The direct and indirect energy requirement per capita from 1948 to 1988 and 1980 to 1992, respectively derived from the National Accounts and the budget surveys.

Figure 8 shows the direct and indirect energy requirement per capita from 1948 to 1988 and from 1980 to 1992. The indirect energy requirement per capita grew slower than the direct energy requirement from about 1963 to 1976.

The total (indexed) household expenditure grew nearly in the same way as the indirect energy requirement. Especially in the period from around 1968 to 1978 the energy requirement for natural gas and petrol grew quickly (see Figure 9). The direct and indirect energy requirements based on the National Accounts are both about 10% higher than the energy requirements based on the budget surveys.

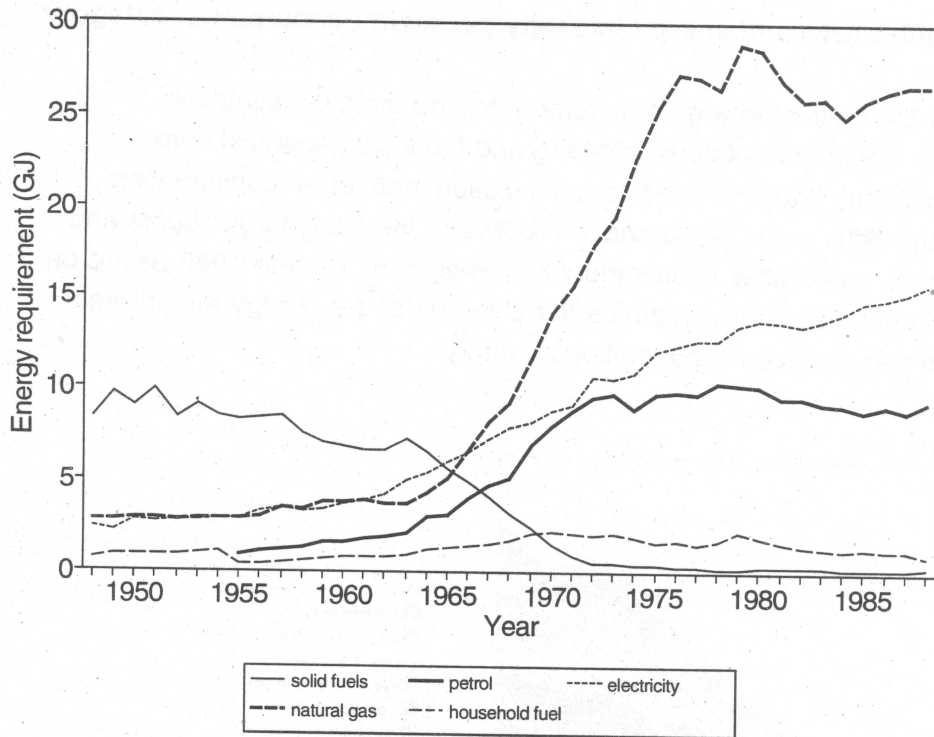


Figure 9 The use of direct energy by households per capita from 1948 to 1988, derived from the National Accounts.

The energy requirement and energy intensity per main consumption category

Next, we review the indirect energy requirement for the main consumption categories 'food', 'household effects', 'clothing and footwear', 'medical care', 'leisure and education', 'transport and communication' and 'other consumption'. Because the large differences in expenditure between the National Accounts and the budget surveys (see Table 1) only the time series from 1948 to 1988 based on the National Accounts is used to examine the changes of the energy requirement and energy intensity per main consumption category.

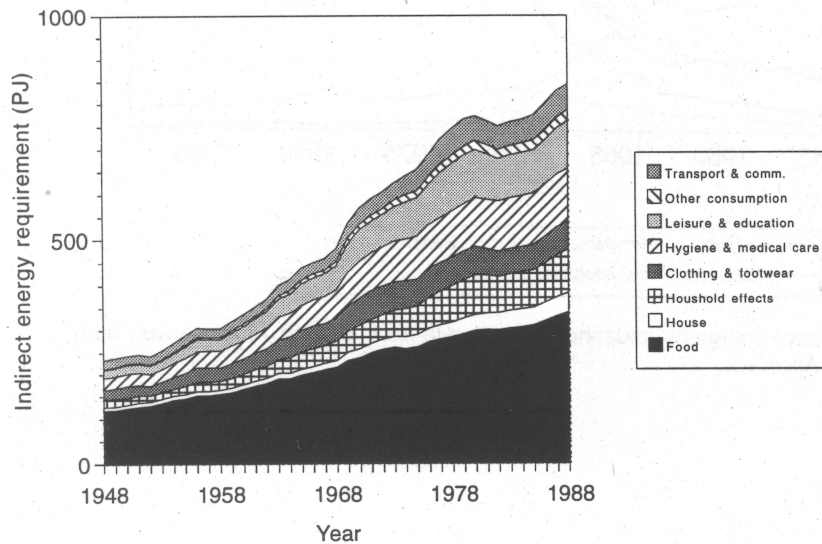


Figure 10 Indirect energy requirement for all households in the Netherlands divided up into main consumption categories.

Figure 10 shows the primary indirect household energy requirement for all households in the Netherlands from 1948 to 1988, divided into main consumption categories, based on the National Accounts.

Figure 11 and 12 show the indirect energy requirement per average household and per capita, divided up into main consumption categories in the same way as in Figure 10.

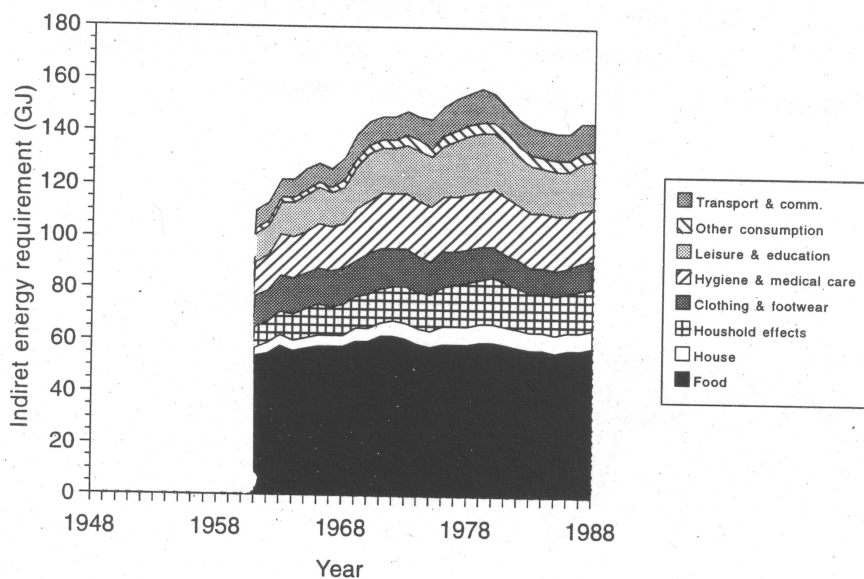


Figure 11 Indirect energy requirement for an average household in the Netherlands divided up into main consumption categories.

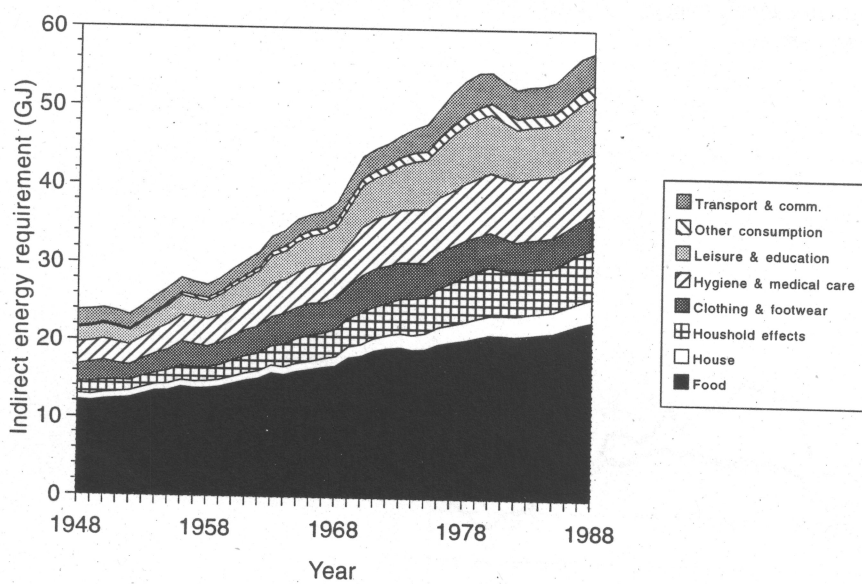


Figure 12 Indirect energy requirement per capita divided up into main consumption categories.

Figure 13 shows the five year average growth rate per capita for the main categories which require indirect energy and the total expenditure. Figure 14 shows the five year growth rate per capita for the main categories which require direct energy and the growth rate of the total energy requirement.

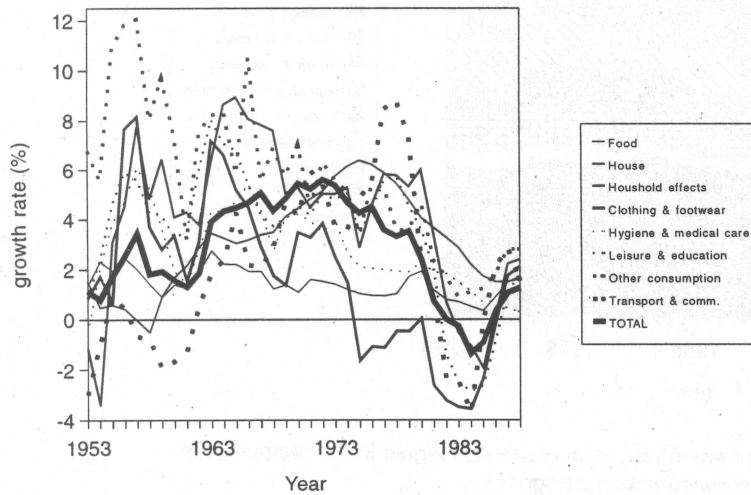


Figure 13 Five year average annual growth rates of the household energy consumption per capita for the main consumption categories which require indirect energy and the growth rate of the total energy requirement.

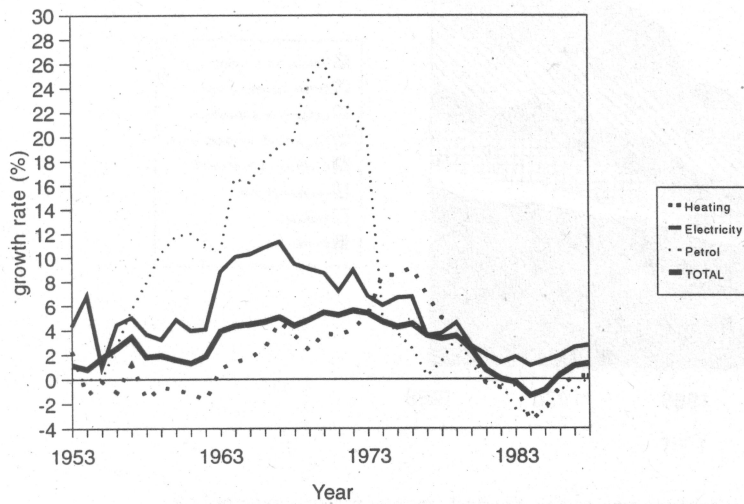


Figure 14 Five year average growth rates of the household energy consumption per capita per year for the main consumption categories which require direct energy and the growth rate of the total energy requirement.

Table 2 shows for three time series, all based on the National Accounts, the annual average growth rate per capita for the main categories and for the total energy requirement. Figure 15 shows the cumulative growth rates with regard to 1948, of the household energy consumption per capita per year for the main consumption categories and the total expenditure.

Table 2 Annual growth rate of the energy requirement per capita per main consumption category for three time ranges.

Main consumption category	1949 - 1969	1971 - 1988	1948 - 1988
Food	1.6	1.3	1.4
House	2.1	3.8	2.9
Household effects	4.4	2.6	3.6
Clothing and Footwear	3.4	-0.6	1.5
Hygiene and Medical Care	3.2	1.5	2.4
Leisure	4.3	1.8	3.1
Other consumption	7.4	2.9	5.3
Transport and Communication	0.7	2.2	1.4
Heating	1.0	2.5	1.7
Electricity	6.6	3.4	5.1
Petrol	18.4	0.9	8.5
Total	3.0	1.9	2.5

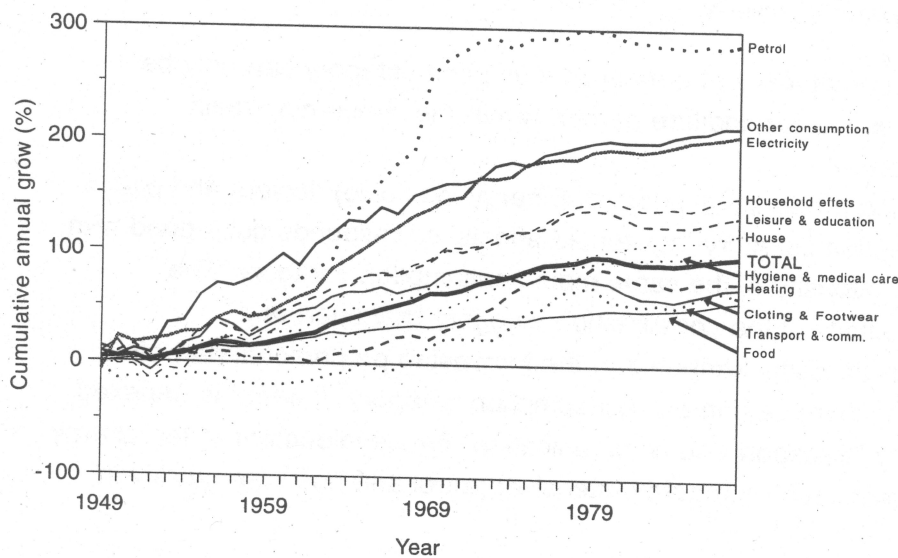


Figure 15 Cumulative growth rates with regard to 1948, of the household energy consumption per capita per year for the main consumption categories and the total expenditure.

As shown before the energy intensity for the total household energy requirement is quite stable. The energy intensity for most of the consumption categories with expenditure concerning only indirect energy requirement vary less than 1 MJ/Dfl (1990) in 40 years. Figure 16 shows the energy intensities of the categories with the largest fluctuations of the energy intensity during the time range from 1948 to 1988. The total indirect energy intensity is also shown by Figure 16.

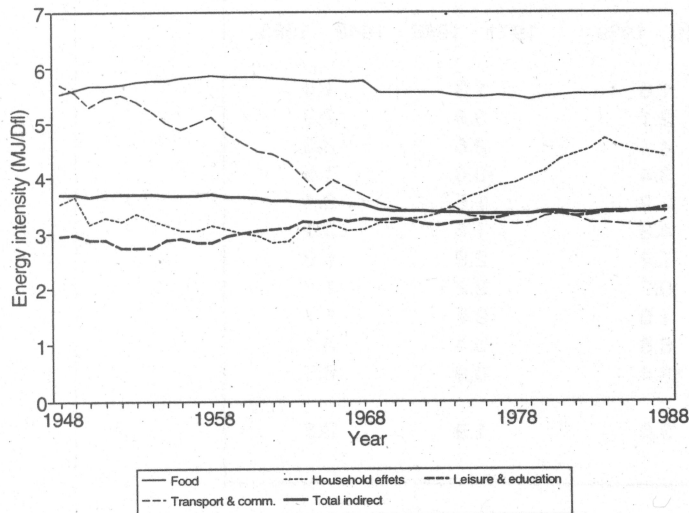


Figure 16 Energy intensities for food, household effects, leisure and education, transport and communication and the total indirect energy intensity.

Changes of the energy intensity of a main consumption category can only be caused by changes in the expenditure pattern within the concerning main consumption category.

We found that a rising proportional share of (energy intensive) flowers and plants of the main consumption category 'household effects' corresponds quite good with a rise of the energy intensity of the same main consumption category. The declining energy intensity of the consumption category "transport and communication" can be partly attributed to the increasing proportional part of (relative energy extensive) cars in this consumption category. If petrol is annexed to the main category "transport and communication" the development of the energy intensity is mainly restricted by (energy intensive) petrol and has rose quickly in the late sixties.

Income effects and time series

The effects of the net household income within 1990 on the total household energy requirement are compared with the development of the average household energy requirement from 1948 to 1988.

The budget survey of 1992 gives the household expenditure per main consumption category of households with a different net income. Figure 17 shows the energy requirement per household member^a between three household income levels groups (the 1st, 5th and 10th income decile) for households in 1990 and the energy requirement per capita in 1948, 1968 and 1988, based on the National Accounts. Figure 18 shows the share of the main categories in the average energy requirement per household member for three household income levels (the 1st, 5th and 10th income decile) for households in 1990 and the energy requirement per capita in 1948, 1968 and 1988.

However the figures derived from the budget survey of 1992 can not be simply compared with the figures based on the National Accounts, it is clear that the difference in energy requirement per household member between the different income deciles within 1990 is smaller than the difference in energy requirement per capita between 1948 and 1988. The energy requirement per household member of a household with an income in the 1st income decile in 1990 is nearly equal to the energy requirement per capita in 1988, taken into account the structural differences between the National Accounts and the budget surveys.

^a The energy requirement per household in 1990 for the 1st, 5th and 10th income level decile according to (CBS, 1992c), is divided by the number of household members of the income level group to get the energy requirement per household member.

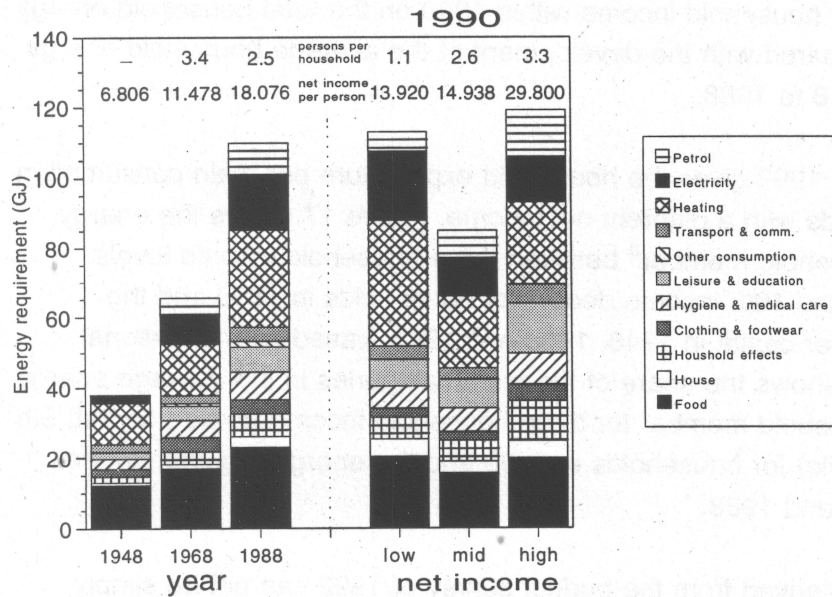


Figure 17 Average energy requirement per household member for three household income levels in 1990 (the 1st, 5th and 10th income decile (CBS, 1992c)) and the energy requirement per capita in 1948, 1968 and 1988, based on the National Accounts.

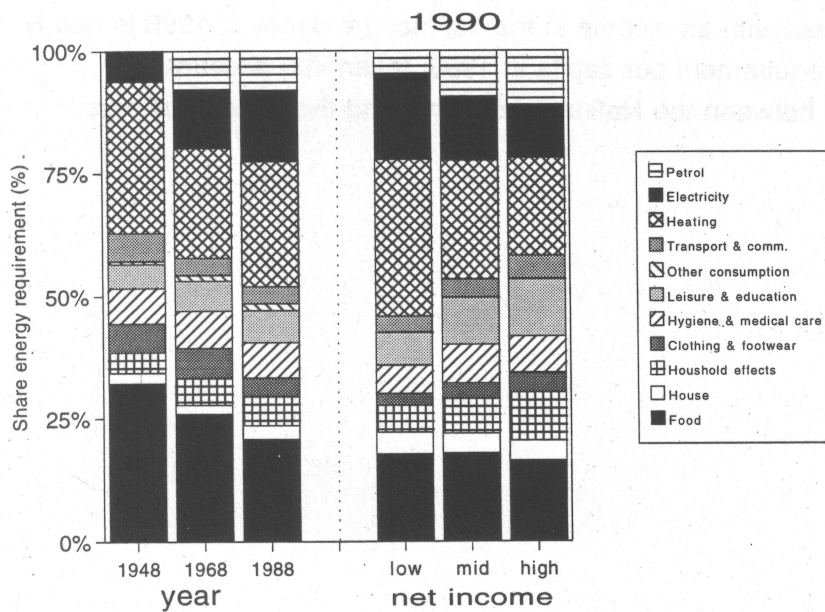


Figure 18 Share of the main categories in the average energy requirement per household member for three household income levels (the 1st, 5th and 10th income decile) for households in 1990 and the energy requirement per capita in 1948, 1968 and 1988.

DISCUSSION

Several important comments should be made with respect to the results of our analyses. These are:

- a The energy requirement of the consumption of several public services and the infrastructure are not included here.
- b The energy intensity of the consumption categories is supposed to be constant during more than 40 years.
- c The composition of the consumption categories is assumed to be constant.
- d Differences between the National Accounts and the budget surveys and their limitations.
- e The results of the time series from 1948 to 1988 have to be interpreted with extra care and some categories of the budget survey are underreported.

These aspects will be dealt with now.

- ad.a The energy requirement of the consumption of several public services and the infrastructure are not included here. The demand on public services (including infrastructure) are excluded from this survey. If the energy requirement of the collective sector would be included, the total average household energy requirement would be about 10% higher than accounted here (Vringer and Blok, 1993). For the time series from 1980 to 1992 a small part (7%) of the net income is excluded from the household expenditure (see also (Vringer and Blok, 1993)).
- ad.b The energy intensity of the consumption categories is supposed to be constant during more than 40 years. This means that the energy series presented here do not reflect the real energy requirement, but the energy requirement in case that the energy intensity of the industry-, distribution- and transport sectors has not been changed through the years. In other words, the time series reflect the changes in energy requirement which can only be assigned to changes in the consumption patterns of the Dutch households.
- ad.c The composition of products in the consumption categories is assumed to be constant. Also changes in product characteristics are not accounted here. These consequences follow on the assumption of a constant energy intensity (see ad.b). The influence of these aspects is the largest for 1948 and the smallest for 1992.
- ad.d The results from the time series from 1980 to 1992 based on the budget surveys can not be compared simply with the results from the time series from 1948 to 1988. The consumption categories of the National Accounts differ from the consumption categories of the budget surveys (see method). Also the total expenditure of the budget surveys is lower than the total

expenditure claimed by the National Accounts (For 1988 and 1989 about 16% (Buiten, 1993a).) The total calculated energy requirement based on the National Accounts is about 10% higher than the total calculated energy requirement based on the budget surveys. Because the shape of the total energy requirement curves for both series is about the same for the overlapping years the trends in the energy requirements seem to be useable.

ad.e The results of the time series from 1948 to 1988 have to be interpreted with extra care. This because the energy intensities from (Vringer and Blok, 1993) are based on the budget survey of 1990. The consumption categories of the National Accounts differ as stated before systematically from the consumption categories of the budget surveys which makes multiplying of the energy intensities and the expenditure questionable. Besides the systematic difference between the two time series the total energy requirement for the years 1980 to 1988 the changes in energy requirement for the two time series are comparable, which fortifies the assumptions made by coupling the energy intensities to the expenditure according to the National Accounts.

Also the reported expenditure of some categories of the budget survey are underreported. The most underestimated expenses are these in connection with the hotel and catering industry, leisure, (alcoholic) drinks and smokers' requisites and motor fuels (Vringer and Blok, 1993).

CONCLUSIONS

The total primary energy requirement has increased from 1948 to 1988 per capita. The rise in energy consumption is mainly due to a rise in the household consumption.

Furthermore, the increasing share of direct energy consumption in the total energy requirement played a role. This share increased from 1948 to 1979. After 1979 the share of use of direct energy carriers declined slightly. In all consumption categories the energy requirement grew. The energy requirement for the consumption categories electricity, household effects, leisure & education and the house grew more than the total energy requirement. Petrol has grown the quickest, on average more than 8% per year for the past 40 years.

The modifications in the total energy intensity, mainly caused by changes in the share of direct energy consumption, were rather small the past four decades. The indirect energy intensity is rather constant.

It should be stressed again that in our analysis only the effect of changes in consumption patterns have been taken into account, **not** the effect of modifications (e.g. efficiency improvements) in sectors that deliver goods and services to the households. If the effects of energy intensity changes of the producing sectors in the past decades are included in the analysis, the rise in energy consumption becomes somewhat smaller than stated above and has even declined from 1981 to 1984.

Taking this into account, we may conclude that apart from the variation in share of direct energy carriers in the past forty years no major trends have been found in either a more or a less energy intensive household consumption pattern.

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APPENDIX A Energy intensities

Table A1 shows the energy intensities from (Vringer and Blok, 1993) which are used for the time series 1980 to 1992. The energy intensities of a few consumption categories had to be recalculated because they differ from the consumption categories in (Vringer and Blok, 1993).

The energy intensities of the consumption categories 'diary-products', 'other costs heating and lighting', 'clothing accessories men/boys' are all calculated on the basis of 3 sub-categories with the ratio of 1990. The energy intensity of the category 'bikes, mopeds and motors' is assumed to have the same energy intensity as bikes have in (Vringer and Blok, 1993). The energy intensity of 'Other expenses' is assumed to be equal to the average energy intensity for all expenses, exclusive expenditure on petrol, gas and electricity.

Table A1 Energy intensities for the time series 1980-1992

Index number	Level	Consumption category	Energy intensity MJ/Dfl
V1	1	TOTAL EXPENDITURE	6.0
v11	2	FOOD	5.6
v110	3	Bread, pastry and flour products	4.1
v1100	4	Bread and rusks	4.0
v1105	4	Cake, biscuits and pastry	3.8
v1107	4	Flour and dry goods	5.9
v111	3	Potatoes, vegetables and fruit	6.6
v1110	4	Potatoes	4.4
v1111	4	Vegetables	8.8
v1120	4	Fruit	5.2
v113	3	Beverages & products containing sugar	4.6
v1130	4	Sugar and confectionery	7.0
v1133	4	Chocolate	4.3
v1135	4	Coffee, tea and cocoa	3.5
v1140	4	Beverages	4.4
v115	3	Oils and fats	13.2
v116	3	Meat, meat products and fish	7.1
v1160	4	Meat	7.7
v1166	4	Meat products and meat dishes	6.0
v1170	4	Venison and poultry	5.9
v1171	4	Fish	8.7
		Diary products	6.2
v1180	4	Milk and milk products	5.9
v1185	4	Butter, cheese and eggs	6.5
v119	3	Other food products	4.5
v1190	4	Condiments, soup and oriental food	6.8
v1193	4	Outdoor consumption	4.1

Index number	Level	Consumption category	Energy intensity MJ/Dfl
v22	2	HOUSEHOLD EFFECTS	
v220	3	Rent, maintenance and garden	9.1
v2200	4	Rent and rental value	2.1
v2202	4	Maintenance	1.2
v2210	4	Fixed equipment	6.9
v2220	4	Garden and flowers	3.1
v224	3	Furniture, upholstery and linen	12.2
v2240	4	Furniture	4.1
v2243	4	Upholstery	3.4
v2247	4	Decoration	5.1
v2249	4	Bedding and household linen	3.0
v2255	4	Domestic decoration not specified	4.6
v226	3	Household appliances and tools	4.1
v2260	4	Cutlery, kitchen utensils and appliances	3.5
v2265	4	Cookers	5.2
v2267	4	Heating appl. (except central heating)	2.7
v2268	4	Lighting appliances	2.4
v2270	4	Cleaning appliances and tools	3.7
v2275	4	Other household appliances and tools	3.1
v2278	4	Repair and hire of household appliances	4.0
v2280	4	Fire- and burglary-insurance	1.1
v229	3	Heating and lighting	1.6
v2290	4	Gas	54.4
v2291	4	Electricity	58.9 (32.0 MJ/m ³)
v2292	4	Solid fuels	48.0 (10.3 MJ/kWh)
v33	2	CLOTHING & FOOTWEAR	52.8
v330	3	Clothing	2.7
v3300	4	Men's clothing	3.0
v3306	4	Women's clothing	3.0
v3310	4	Boys' and girls' clothes	2.4
v3327	4	Clothes unspecified (age, sex, unknown)	3.5
v3328	4	Clothing accessories men/boys	3.0
v3331	4	Materials and charge for making clothes	2.6
v335	3	Footwear and finery	5.2
v3350	4	Men's footwear	1.8
v3360	4	Women's footwear	1.6
v3370	4	children's footwear	1.7
v3375	4	Footwear unsp. (age, sex unknown)	1.6
v3380	4	Shoe-repairs and -material	1.8
v3382	4	Finery	2.1
			2.0

Index number	Level	Consumption category	Energy intensity MJ/Dfl
v44	2	HYGIENE AND MEDICAL CARE	3.2
v440	3	Domestic services and cleaning	3.5
v4400	4	Domestic services	0.6
v4410	4	Cleaning articles	5.7
v442	3	Physical care	3.6
v4420	4	General physical care	6.0
v4430	4	Services of hairdressers	2.0
v4440	4	Cosmetics and perfumery	2.5
v446	3	Medical care	3.0
v4460	4	Medical care (excluding insurance)	11.5
v4490	4	Health insurance	1.6
v55	2	EDUCATION, RECREATION AND TRANSPORT	5.2
v550	3	Education	3.6
v5600	4	Schooling	1.7
v5504	4	Stationery and reading	4.8
v551	3	Sports, games and holidays	5.6
v5510	4	Sports and games	2.6
v5516	4	Camping, weekend and holidays	6.0
v553	3	Other recreation	2.7
v5530	4	Music, singing and theatre	1.9
v5535	4	Radio, television and gramophones	2.1
v5542	4	Other recreation	3.7
v5551	4	Toys	2.8
v556	3	Smoking	1.1
v557	3	Transport & communication	6.6
v5570	4	Public transport	7.6
v5572	4	Bikes, mopeds and motors	2.2
v5576	4	Cars	2.4
v5579	4	Other costs of personal transport	15.0
v5582	4	Other transport & communication costs	1.9
v66	2	OTHER EXPENSES	3.5

APPENDIX B Price index numbers 1980 - 1992 (1990=100)

To calculate price index numbers for 1980 to 1992 the supplements of (CBS, 1993a), (CBS, 1992a), (CBS, 1990a), (CBS, 1987) and (CBS, 1985) are used. The price index numbers for 1992 are taken from (CBS, 1993a), for 1989 to 1991 from (CBS, 1992a), for 1986 to 1988 from (CBS, 1990a), for 1984 and 1985 from (CBS, 1987) and for 1980 to 1983 from (CBS, 1985). The price index numbers are converted to the index of 1990 = 100 to get one continuous range.

The consumption categories from the budget survey do not correspond with the consumption categories of (CBS, 1993a), (CBS, 1992a), (CBS, 1990a), (CBS, 1987) and (CBS, 1985). Table B1 and B2 show which categories (inclusive the ratio) we used from (CBS, 1992a), (CBS, 1990a), (CBS, 1987), (CBS, 1985) and (CBS, 1982) to compute the price index numbers for the consumption categories of the budget surveys.

The price index numbers from 1980 to 1985 are valid for households with wage-earners and salaried employees families with an income below the wage limit of the compulsory national health insurance. The price index numbers from 1986 to 1992 are valid for the entire population. This population difference is neglected and we assumed that the price index numbers from 1980 to 1985 are valid for the entire population.

The price for the year 1990 of a product can be calculated by multiplying the price of the product in a specific year with one hundredth of the price index number of that year and the concerned consumption category of table B3. The price index numbers of the cumulative categories are composed of one or more price index number(s) of a lower level.

Table B1 Consumption categories of the budget survey and the assumed corresponding consumption categories of the price index numbers for 1985 to 1992, valid for the total Dutch population

Description budget surveys	Classification number price index numbers	Description price index numbers
Food		
Bread and rusks	1020	Bread and bakery products
Cake, biscuits and pastry	1040	Pastry
Flour and dry goods	1010	Flour and few manipulated cereals
Potatoes	151	Potatoes and -products
Vegetables	134	Vegetables and fruit
Fruit	134	Vegetables and fruit
Sugar and confectionery	152+1570	Sugar + confectionery (200:260)
Chocolate	1560	Chocolate (370)
Coffee, tea and cocoa	153	Coffee and tea (800)
Beverages	17+18	Non-alcoholic beverages + alcoholic beverages (400:1500)
Oils and fats	129-1290	Eatable Oils and fats (exclusive butter (500:120))
Meat	110	Meat (inclusive meat containing products (3700:410))
Meat-products and meat-courses	1160	Meat containing products
Venison and poultry	110	Meat
Fish	119	Fish
Milk and milk products	1230+1240+1250	Milk + condensed milk + milk products (690:180:550)
Butter, cheese and eggs	1290+1260+1280	Butter + cheese + eggs (120:890:190)
Condiments, soup and oriental food	1600	Spices
Outdoor consumption	830	Consumption at restaurants and cafes
Household effects		
Rent and rental value	3000	House services
Maintenance house	3040	Maintenance
Fixed equipment	3040	Maintenance
Garden and flowers	7380	Flowers and plants, garden
Furniture	401	Furniture
Upholstery	415+4250	Floorcloth + curtains (exclusive blinds (630:300))
Decoration	412	Decoration articles
Bedding and household linen	4210	Bedding and table-linen
Domestic decoration not specified	4	Furniture, Decoration, Household appl. and tools, maintenance, etc.
Cutlery, kitchen utensils and appliances	474+4400+470	Cutlery, kitchen utensils and appliances + Refrigerators and deepfreezes + Pottery and glassware (240:120:140)
Kitchen cookers	4460	Kitchen cookers
Heating appl. (excl. central heating)	4490	Heating appliances (excluding central heating)
Lighting appliances	400	Lighting appliances
Cleaning appliances and tools	4430+4530	Washing- and dryingmachines + Vacuum cleaners (220:60)
Other household appliances and tools	4540	Sewing- and knitting-tools
Repair and hire of household appliances	460	Repair of household appliances
Fire- and burglary-insurance	860	Indemnity insurance
Gas	340	Gas
Electricity	330	Electricity
Other heating and lighting costs	33	Heating and lighting

Description budget surveys	Classification number price index numbers	Description price index numbers
Clothing and footwear		
Men's clothing	2000	Men's clothing
Women's clothing	2070	Women's clothing
Boys' and girls' clothes	2200	Boys' and girls' clothes
Clothes unspecified (age, sex, unknown)	200	Clothing articles
Clothing accessories	2270	Clothing accessories
Materials and charge for making clothes	2280	Clothing materials
Men's footwear	2500	Men's footwear
Women's footwear	2520	Women's footwear
Children's footwear	2580	Children's footwear
Footwear unspecified (age, sex unknown)	250	Footwear
Shoe-repairs and -material	260	Shoe-repairs
Finery	8240+8200+8260	Leather-goods + Jewellery + personal articles (70:250:100)
Hygiene and medical care		
Domestic services	49	Services domestic personal
Cleaning articles	4800	Maintenance products
General physical care	802	articles for personal care
Services of hairdressers	800	Services of hairdressers
Cosmetics and perfumery	8080+8130	Aftershave, perfumery, etc. + make-up articles
Medical care	5	Medical care
Health insurance	5	Medical care
Leisure and Education		
Schooling	78	Education
Stationery and reading	77+827	Books, papers and periodicals + writing-materials and drawing-instruments (2200:180)
Sports and games	7250+7620	Sporting articles + Sport and recreation (240:470)
Camping, weekend and holidays	85	Holiday-trips all-in
Music, singing and theatre	760	Entrance fees
Radio, television and gramophones	700+7651+7190	Video- and equipment + radio and television licence fee + Records, cassettes and compact disks (830:391:250)
Other recreation	7460+7370	Pets (inclusive care) + photo and film equipment and accessories (590:100)
Toys	7320	Other toys
Smoking	19	Tobacco
Transport and communication		
Public transport	660+6670	Public transport + taxi (1050:110)
Bikes, Mopeds, motor-cycles etc.	6140+6110	Bikes + Mopeds, motor-cycles etc.(220:60)
Cars and accessories	600+620	Cars + maintenance and accessories (3560:1780)
Other costs of personal transport	641+648	Petrol and motor oils + other costs of personal transport (3050:670)
Other transport & communication costs	67+6680	PTT services + other transport services (1500:210)
Other consumption		
Other expenses	86+871+872	financial services + notarial costs + funeral-expenses (600:110:130)

Table B2 Consumption categories of the budget surveys and the assumed corresponding consumption categories of price index numbers for 1980 to 1985, valid for households with wage-earners and salaried employees families with an income below the wage limit of the compulsory national health insurance.

Description budget surveys	Classification number price index numbers	Description price index numbers
Food		
Bread and rusks	1010	Bread and bakery products
Cake, biscuits and pastry	1030	Pastry
Flour and dry goods	1070	Flour and few manipulated cereals
Potatoes	153	Potatoes and -products
Vegetables	135	Vegetables and fruit
Fruit	135	Vegetables and fruit
Sugar and confectionery	155+1610	Sugar + confectionery
Chocolate	1600	Chocolate (370)
Coffee, tea and cocoa	156	Coffee and tea (800)
Beverages	17+18	Non-alcoholic beverages + alcoholic beverages
Oils and fats	129-1290	Eatable Oils and fats (exclusive butter
Meat	110	Meat (inclusive meat containing products
Meat-products and meat-courses	1160	Meat containing products
Venison and poultry	110	Meat
Fish	122	Fish
Milk and milk products	1240+1250	Milk + milk products
Butter, cheese and eggs	1301+1280+1290	Butter + cheese + eggs
Condiments, soup and oriental food	1410	Soup
Outdoor consumption	830	Consumption at restaurants and cafes
Household effects		
Rent and rental value	300	House rent
Maintenance house	302	Maintenance
Fixed equipment	302	Maintenance
Garden and flowers	7300+7360	Flowers + house plants
Furniture	401	Furniture
Upholstery	4120+421	Floorcloth + curtains (inclusive blinds
Decoration	411	Decoration articles
Bedding and household linen	423+424	Bedding and other household linen
Domestic decoration not specified	4	Furniture, Decoration, Household appliances and tools, maintenance, etc.
Cutlery, kitchen utensils and appl.	430+431+432+452+4500	Refrigerators + deepfreezes + kitchen utensils and appliances + pottery and glassware
Kitchen cookers	435	Kitchen cookers
Heating appl. (excl. central heating)	43	Heating- and household appliances
Lighting appliances	400	Lighting appliances
Cleaning appliances and tools	433+434+440	Washing- and dryingmachines + Vacuum cleaners
Other household appliances and tools	439	Sewingmachines
Repair and hire of household appliances	441	Repair of household appliances
Fire- and burglary-insurance	8505	Indemnity insurance
Gas	312	Gas
Electricity	310	Electricity
Other heating and lighting costs	31	Heating and lighting

Description budget surveys	Classification number price index numbers	Description price index numbers
Clothing and footwear		
Men's clothing	200	Men's clothing
Women's clothing	207	Women's clothing
Boys' and girls' clothes	220	Boys' and girls' clothes
Clothes unspecified (age, sex, unknown)	20	Clothing articles
Clothing accessories	2400	Clothing accessories
Materials and charge for making clothes	2410	Clothing materials
Men's footwear	250	Men's footwear
Women's footwear	252	Women's footwear
Children's footwear	256	Children's footwear
Footwear unspecified (age, sex unknown)	25	Footwear
Shoe-repairs and -material	260	Shoe-repairs
Finery	823+821+824	Leather-goods + Jewellery + personal articles
Hygiene and medical care		
Domestic services	470	Services domestic personal
Cleaning articles	46	Daily maintenance
General physical care	8020	articles for personal care
Services of hairdressers	800	Services of hairdressers
Cosmetics and perfumery	8030	toilet-requisites
Medical care	5	Medical care
Health insurance	5	Medical care
Leisure and Education		
Schooling	76	Education
Stationery and reading	75	Books, papers and periodicals
Sports and games	7150+741	Sport articles + sports lessons
Camping, weekend and holidays	84	Holiday-trips all-in
Music, singing and theatre	740	Entrance fees
Radio, television and gramophones	7431+7100+7120	Video- and equipment + radio and television licence fee + Records, cassettes and compact disks
Other recreation	7380+7433	Pets (inclusive care) + photo and films (including developing and prints)
Toys	7200	Toys
Smoking	19	Tobacco
Transport and communication		
Public transport	650+656	Public transport + taxi
Bikes, Mopeds, motor-cycles etc.	6130+6140	Bikes + Mopeds
Cars and accessories	600+620-622+625+631+634+635	Cars + accessories + repairs
Other costs of personal transport	636+638-643	Petrol and motor oils + other costs of personal transport
Other transport & communication costs	66	PTT services
Other consumption		
Other expenses	85	financial services

Table B3 Calculated price index numbers for 1980 to 1992 (1990=100) for the consumption categories of the used budget surveys.

IndexLevel nr.	Consumption category	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
V1	TOTAL EXPENDITURE	80.5	85.5	90.1	92.5	95.4	97.6	97.4	96.3	96.9	97.9	100.0	103.7	107.3
V11	FOOD	84.6	89.1	94.1	94.8	99.1	99.7	99.3	97.2	97.5	98.2	100.0	103.0	105.3
V110	Bread, pastry and flour products	81.6	87.4	92.7	93.5	95.6	96.5	97.2	97.8	97.8	98.1	100.0	102.4	106.6
V1100	Bread and rusks	79.5	86.6	93.0	93.8	96.2	96.2	97.1	98.1	98.1	98.1	100.0	101.9	107.7
V1105	Cake, biscuits and pastry	80.6	85.5	89.5	90.3	92.7	94.3	95.3	96.2	97.2	98.1	100.0	102.8	106.6
V1107	Flour and dry goods	101.8	103.8	107.9	109.9	107.9	109.9	107.7	104.4	100.0	97.8	100.0	102.2	101.1
V111	Potatoes, vegetables and fruit	84.3	91.5	94.4	91.6	99.7	99.2	93.1	92.9	93.7	93.1	100.0	107.8	105.4
V1110	Potatoes	81.8	85.0	91.6	93.2	118.6	81.8	82.0	85.0	85.3	93.4	100.0	104.3	100.8
V1111	Vegetables	84.6	92.2	94.8	91.4	97.3	100.7	94.1	93.7	94.4	93.1	100.0	108.3	105.8
V1120	Fruit	84.6	92.2	94.8	91.4	97.3	100.7	94.1	93.7	94.4	93.1	100.0	108.3	105.8
V113	Beverages & products containing sugar	95.0	94.7	101.5	102.2	111.6	113.1	113.1	102.8	102.5	100.8	100.0	102.9	105.6
V1130	Sugar and confectionery	86.7	92.6	99.8	103.0	105.0	106.4	107.6	108.6	108.6	99.3	100.0	102.4	105.5
V1133	Chocolate	94.8	95.8	96.7	97.7	101.5	105.3	107.4	105.3	105.3	98.9	100.0	101.1	103.2
V1135	Coffee, tea and cocoa	138.9	127.8	137.5	138.9	166.7	166.7	171.7	118.8	114.2	116.3	100.0	100.2	100.3
V1140	Beverages	82.1	84.8	92.0	91.8	95.1	95.8	96.5	97.3	98.3	97.8	100.0	103.9	106.9
V115	Oils and fats	99.2	106.6	106.2	110.6	128.0	122.0	101.5	91.3	94.4	97.9	100.0	107.5	112.6
V116	Meat, meat products and fish	83.7	88.6	95.3	96.2	96.1	96.6	96.7	95.5	94.9	97.2	100.0	101.9	104.9
V1160	Meat	83.7	88.7	95.4	96.3	95.4	95.4	95.1	94.1	93.5	96.6	100.0	101.3	104.5
V1166	Meat products and meat dishes	84.0	89.1	96.6	98.3	99.2	100.0	100.0	98.0	97.0	98.0	100.0	102.0	105.0
V1170	Venison and poultry	83.7	88.7	95.4	96.3	95.4	95.4	95.1	94.1	93.5	96.6	100.0	101.3	104.5
V1171	Fish	81.5	84.8	88.0	87.2	88.9	92.9	96.7	96.5	96.7	99.2	100.0	105.6	108.3
	Dairy products	85.5	90.7	94.6	95.5	95.8	96.2	95.3	96.2	97.4	100.3	100.0	101.1	104.1
V1180	Milk and milk products	83.9	89.4	95.7	96.1	94.9	95.7	95.8	95.4	96.9	100.5	100.0	101.1	105.8
V1185	Butter, cheese and eggs	87.1	92.0	93.3	94.7	96.7	96.7	94.8	97.0	98.0	100.1	100.0	101.1	102.0
V119	Other food products	74.9	79.3	83.7	86.3	89.9	91.7	95.8	97.2	97.8	98.8	100.0	102.1	104.8
V1190	Condiments, soup and oriental food	86.6	90.1	95.3	95.3	97.0	96.2	114.4	113.5	112.5	102.9	100.0	98.1	101.0
V1193	Outdoor consumption	73.3	77.7	82.1	85.0	88.7	90.9	92.7	94.5	95.5	98.2	100.0	102.7	105.5

Index nr.	Level	Consumption category	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
v22	2	HOUSEHOLD EFFECTS													
v220	3	Rent, maintenance and garden	74.8	82.1	87.7	91.7	95.4	98.9	98.2	94.2	95.5	96.8	100.0	104.4	108.1
v2200	4	Rent and rental value	67.1	71.7	76.3	81.8	85.6	88.6	91.0	92.7	95.1	97.3	100.0	104.2	109.7
v2202	4	Maintenance	63.1	68.2	73.8	80.1	84.6	87.7	90.4	92.1	94.7	97.4	100.0	104.4	110.5
v2210	4	Fixed equipment	79.7	84.5	86.9	87.7	89.3	90.9	92.7	94.5	95.5	97.3	100.0	102.7	105.5
v2220	4	Garden and flowers	79.7	84.5	86.9	87.7	89.3	90.9	92.7	94.5	95.5	97.3	100.0	102.7	105.5
v224	4	Furniture, upholstery and linen	92.2	91.2	93.3	95.1	96.0	98.0	99.0	100.0	100.0	100.0	100.0	102.9	102.9
v2240	3	Furniture	85.0	90.7	93.0	93.4	94.7	95.4	96.8	97.8	98.1	98.6	100.0	102.0	104.5
v2243	4	Upholstery	86.6	93.6	95.3	95.3	95.3	96.2	97.1	98.1	98.1	99.0	100.0	101.9	103.8
v2247	4	Decoration	83.6	88.3	91.3	91.5	94.5	94.9	96.2	97.5	98.4	98.4	100.0	102.5	105.4
v2249	4	Bedding and household linen	81.4	87.1	91.2	92.0	94.4	95.2	97.1	99.0	101.0	98.1	100.0	102.9	109.5
v2255	4	Domestic decoration not specified	83.1	87.1	88.5	90.6	93.1	94.3	97.2	97.2	97.2	98.1	100.0	100.9	101.9
v226	4	Household appliances and tools	83.8	88.0	91.4	92.2	93.9	93.9	95.2	96.1	96.8	98.2	100.0	102.3	105.0
v2260	3	Cutlery, kitchen utensils and appliances	88.7	91.0	93.2	95.0	95.9	96.9	98.2	98.5	98.2	98.7	100.0	101.8	103.8
v2265	4	Cookers	86.1	91.9	94.3	94.7	95.3	95.6	96.4	97.6	97.8	98.1	100.0	103.4	106.1
v2267	4	Heating appl. (except central heating)	87.5	91.0	96.3	97.2	97.2	98.0	99.0	102.0	102.9	100.0	100.0	102.0	103.9
v2268	4	Lighting appliances	80.4	83.7	87.7	89.3	90.1	90.1	91.9	93.7	95.5	97.3	100.0	102.7	105.4
v2270	4	Cleaning appliances and tools	106.4	103.2	104.3	102.1	101.1	100.0	101.0	101.9	100.0	99.0	100.0	102.0	105.0
v2275	4	Other household appliances and tools	96.6	98.5	102.0	102.7	104.6	103.9	103.6	102.4	100.4	99.0	100.0	100.0	101.4
v2278	4	Repair and hire of household appliances	88.2	85.5	89.9	92.6	92.6	92.6	97.2	97.2	95.4	96.3	100.0	99.1	98.1
v2280	4	Fire- and burglary-insurance	68.9	75.8	79.9	82.0	83.4	84.7	88.1	89.0	90.7	93.2	100.0	105.1	111.0
v229	3	Heating and lighting	80.4	83.6	85.2	92.4	94.8	98.0	99.0	99.0	99.0	100.0	100.0	101.0	102.9
v2290	4	Gas	84.1	102.9	117.1	121.0	126.4	131.6	123.6	95.8	93.1	90.5	100.0	108.9	105.4
v2291	4	Electricity	73.1	94.3	110.4	117.7	125.0	131.6	127.6	93.4	89.5	85.5	100.0	113.2	109.2
v2292	4	Solid fuels	99.7	116.6	127.6	126.6	128.6	131.6	114.5	100.0	98.7	97.4	100.0	101.3	98.7
v33	2	CLOTHING & FOOTWEAR	82.6	102.4	116.4	120.5	127.1	132.1	121.8	95.2	92.6	89.7	100.0	109.2	106.3
v330	3	Clothing	95.5	98.4	103.1	103.8	105.2	108.5	110.5	108.4	103.8	101.2	100.0	98.2	98.5
v3300	4	Men's clothing	93.5	96.3	101.3	103.1	105.3	108.7	111.6	109.3	104.3	101.2	100.0	98.0	98.1
v3306	4	Women's clothing	82.3	85.6	88.9	88.9	93.0	97.1	100.0	101.9	101.0	101.0	100.0	98.1	100.0
v3310	4	Boys' and girls' clothes	94.2	97.9	101.7	104.5	106.4	111.1	115.6	112.2	105.6	101.1	100.0	97.8	95.6
v3327	4	Clothes unspecified (age, sex, unknown)	101.1	101.1	108.2	108.2	111.2	116.3	118.6	112.8	107.0	101.2	100.0	94.2	96.5
v3328	4	Clothing accessories men/boys	92.5	95.3	99.9	100.8	102.7	106.4	109.6	108.5	104.3	101.1	100.0	98.9	98.9
v3331	4	Materials and charge for making clothes	74.4	78.8	82.5	84.8	86.3	88.5	91.2	92.9	95.6	98.2	100.0	102.7	108.0
v335	3	Footwear and finery	111.3	116.8	124.6	129.1	124.6	119.0	117.9	113.1	106.0	103.6	100.0	103.6	108.3
v3350	4	Men's footwear	102.5	105.5	109.2	106.2	105.1	107.9	106.7	105.5	102.3	101.3	100.0	98.9	99.9
	4		94.7	97.5	100.4	100.4	101.3	104.2	106.3	108.3	105.2	104.2	100.0	97.9	100.0

Index nr.	Level	Consumption category	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
v3360	4	Women's footwear	116.0	119.4	124.1	112.5	109.0	113.6	110.2	106.8	101.1	98.9	100.0	98.9	102.3
v3370	4	children's footwear	99.0	104.0	106.9	105.9	106.9	109.9	111.0	108.8	105.5	103.3	100.0	100.0	96.7
v3375	4	Footwear unsp. (age, sex unknown)	100.5	104.5	108.5	104.5	104.5	107.5	107.5	106.5	102.2	101.1	100.0	98.9	98.9
v3380	4	Shoe-repairs and -material	75.0	78.8	83.3	85.5	87.8	89.3	91.1	92.9	95.5	98.2	100.0	102.7	105.4
v3382	4	Finery	99.7	101.5	103.2	106.4	105.9	107.3	104.8	103.0	102.1	101.5	100.0	98.2	98.2
v44	2	HYGIENE AND MEDICAL CARE	77.0	81.1	85.4	86.7	88.2	90.3	91.8	93.8	95.9	97.6	100.0	107.2	113.5
v440	3	Domestic services and cleaning	74.8	76.9	81.0	82.7	84.8	86.3	88.1	88.6	90.8	97.2	100.0	104.4	108.1
v4400	4	Domestic services	72.8	75.0	80.1	83.0	86.0	87.4	89.5	90.7	94.1	95.9	100.0	104.6	108.7
v4410	4	Cleaning articles	76.3	77.8	81.7	82.4	83.9	85.5	87.2	87.2	88.0	98.3	100.0	104.3	107.7
v442	4	Physical care	83.8	86.7	90.2	89.4	90.6	91.5	93.2	94.0	95.0	97.1	100.0	104.3	108.8
v4420	3	General physical care	107.9	105.7	106.8	100.3	98.2	97.1	98.1	97.1	97.1	98.1	100.0	103.9	107.8
v4430	4	Services of hairdressers	68.6	74.8	80.3	83.0	87.1	88.5	90.3	92.9	94.7	97.3	100.0	103.5	108.0
v4440	4	Cosmetics and perfumery	84.2	86.7	89.2	88.4	88.4	90.1	91.2	91.0	91.9	94.4	100.0	106.7	112.4
v446	4	Cosmetics and perfumery	76.3	80.8	85.4	86.9	88.5	90.7	92.2	94.6	97.0	97.8	100.0	108.3	115.5
v4460	3	Medical care	76.3	80.8	85.4	86.9	88.5	90.7	92.2	94.6	97.0	97.8	100.0	108.3	115.5
v4460	4	Medical care (excluding insurance)	76.3	80.8	85.4	86.9	88.5	90.7	92.2	94.6	97.0	97.8	100.0	108.3	115.5
v4490	4	Health insurance	76.3	80.8	85.4	86.9	88.5	90.7	92.2	94.6	97.0	97.8	100.0	108.3	115.5
v55	2	EDUCATION, RECREATION AND TRANSPORT	80.3	84.8	88.7	91.7	93.8	95.6	94.7	96.2	96.9	98.3	100.0	102.9	106.5
v550	3	Education	70.2	75.1	80.9	84.8	87.3	90.1	92.9	94.8	96.6	98.1	100.0	103.6	107.5
v5600	4	Schooling	73.4	78.5	84.4	87.3	89.5	91.7	94.5	96.4	98.7	98.8	100.0	104.3	108.7
v5504	4	Stationery and reading	67.7	72.5	77.9	82.6	85.3	88.7	91.5	93.5	95.3	97.7	100.0	103.2	106.9
v551	3	Sports, games and holidays	78.8	81.9	86.4	90.3	90.7	93.7	95.7	96.4	97.0	98.7	100.0	103.1	106.6
v5510	4	Sports and games	80.1	82.9	86.3	89.9	92.6	94.4	95.9	96.9	97.5	98.4	100.0	102.2	104.7
v5516	4	Camping, weekend and holidays	78.6	81.8	86.5	90.4	90.4	93.5	95.7	96.3	96.9	98.7	100.0	103.2	106.8
v553	3	Other recreation	101.2	103.7	106.2	108.6	108.9	107.7	106.1	102.4	99.9	100.2	100.0	99.7	100.6
v5530	4	Music, singing and theatre	63.7	68.2	73.3	77.7	82.2	84.7	85.6	87.3	93.2	95.8	100.0	105.1	110.2
v5535	4	Radio, television and gramophones	114.2	115.2	117.7	119.6	120.4	117.8	114.6	108.2	102.1	102.7	100.0	97.6	96.7
v5542	4	Other recreation	94.0	97.5	100.5	102.0	100.7	100.9	99.9	98.7	98.6	98.4	100.0	101.6	103.5
v5551	4	Toys	86.9	91.2	97.3	98.1	98.1	99.0	101.0	100.0	98.0	97.0	100.0	101.0	101.0
v556	3	Smoking	66.6	72.0	74.0	78.0	89.3	93.3	94.5	97.3	97.4	97.9	100.0	102.6	116.1
v557	3	Transport & communication	78.1	84.5	87.8	90.0	92.5	94.3	91.1	94.4	95.9	97.6	100.0	103.9	107.5
v5570	4	Public transport	64.7	69.0	75.1	83.1	89.6	92.6	93.4	94.6	95.7	97.9	100.0	105.0	112.0
v5572	4	Bikes	65.3	70.4	73.7	77.1	78.6	81.3	84.4	89.6	92.7	95.8	100.0	104.7	110.9
v5576	4	Cars	71.3	74.9	78.9	83.2	85.3	87.5	91.3	94.5	97.7	98.3	100.0	102.3	106.1
v5579	4	Other costs of personal transport	81.7	95.7	97.0	98.3	101.0	103.4	86.8	91.0	91.1	95.4	100.0	107.2	110.3
v5582	4	Other transport & communication costs	95.4	98.4	96.4	97.3	98.3	98.3	98.9	101.0	100.8	100.8	100.0	100.1	102.7
v66	2	OTHER EXPENSES	86.1	88.7	86.1	89.5	93.0	94.7	95.9	96.2	96.9	97.6	100.0	105.9	116.6

APPENDIX C Matching the consumption categories

Table C1 shows the consumption categories of the National Accounts (CBS, 1991) matched with the consumption categories and energy intensities of (Vringer and Blok, 1993). The energy intensities for the time series 1948 to 1988 are the same as used for the time series from 1980 to 1992 (Table A1) but in Table C1 a few consumption categories are added: 'banking services', 'insurance services' and 'services, n.e.c.'. The energy intensity of the added consumption categories are appraised at 1.0 MJ/Dfl.

Table C1 Energy intensities for the consumption categories from the National Accounts (CBS, 1991)

Category according to the National Accounts nr.	name	Category according to the budget surveys nr.	Name	MJ/Dfl
1101	Rice, groats and oatmeal	110720	Rice	5.7
1102	Noodles/macaroni	110750	Other flour and dry goods	6.9
1103	Tea	113600	Tea	4.3
1104	Coffee	113500	Coffee	3.4
1105	Cocoa	113700	Cocoa	2.6
1106	Chocolate spread	113300	Chocolate paste/butter for bread	4.8
1107	Sugar	113000	Sugar	11.2
1108	Fruit preserves	11250	Preserved Fruit	6.4
1109	Margarine	115000	Margarine	11.0
1110	Edible fat	115110	Fats for frying and deep frying	15.3
1111	Edible oils	115120	Salad oil	26.0
1113	Other groceries	1196	Other food products and beverages	5.4
1201	Standard milk	118000	Milk	6.3
1202	Butter	118500	Butter	6.7
1203	Cheese	118600	Cheese	5.8
1204	Cream and condensed milk	118300	Evaporated milk and Cream	5.4
1205	Skimmed-/butter milk	118400	Other milk products	5.8
1206	Yoghurt	118100	Yogurt	5.3
1207	Chocolate milk	118400	Other milk products	5.8
1208	Special milk products	118400	Other milk products	5.8
1209	Eggs	118700	Eggs	11.1
1300	Bread	110000	Wholemeal bread	4.0
1401	Potatoes	1110	Potatoes	4.4
1402	Vegetables	1111	Vegetables	8.8
1403	Fruit	1120	Fruit	5.2
1405	Vegetable preserves	11160	Preserved and dried vegetables	9.9
1501	Beef and veal	116000	Beef and veal, fresh	5.7
1502	Pork	116100	Port, fresh	5.7
1503	Other meat	116520	Other meat products	7.3
1504	Meat preserves/meat products	116400	Meat and meat products, frozen	9.3
1505	Poultry (incl. ducks)	117020	Poultry	6.0
1601	Fresh fish	117100	Fish, fresh	5.8
1602	Fish preserves	117340	Preserved fish	12.0
2101	Sugar and chocolate products	113130	Sugar products on bread	6.6
2102	Ginger bread	110300	Bread with raisins	4.2
2103	Dutch rusks	110200	Rusks and other sorts of bread	3.9
2104	Biscuits/cakes/pastry	1105	Cake, biscuits and pastry	3.8
2105	Pastry products	110730	Pastry	4.7
2201	Cigars/cigarillos	556000	Cigars	1.2
2202	Cigarettes	556100	Cigarettes	0.9
2203	Cut tobacco	556200	Other tobacco articles	1.3
2301	Beer	114110	Beer	3.1
2302	Other alcoholic beverages	11410	Alcoholic beverages	3.0
2303	Non-alcoholic beverages	11400	Non-alcoholic beverages	7.3
2400	Ice-cream	119500	Ice cream	4.1

Category according to the National Accounts		Category according to the budget surveys		
nr.	name	nr.	Name	
3101	Men's outer garments	3300	Men's clothing	3.0
3102	Ladies outer garments	3306	Women's clothing	2.4
3103	Underwear and nightwear	330500	Nightgowns and underwear	2.8
3104	Rain garments	330000	Men's coats	3.9
3105	Stockings and socks	330750	Ladies stockings	2.1
3106	Fashion articles	3340	Other clothing and requisites	3.0
3107	Yarns	3340	Other clothing and requisites	3.0
3108	Woven fabrics	3340	Other clothing and requisites	3.0
3109	Soft furnishing	3340	Other clothing and requisites	3.0
3112	Other textile products	3340	Other clothing and requisites	3.0
3200	Footwear	335	Footwear and finery	1.8
3300	Leather articles	338200	Leather goods etc.	2.8
3401	Heating equipment	2267	Heating appliances (except central heating)	2.4
3404	Earthenware for household use	226300	Pottery and glassware	3.0
3405	Glassware	226300	Pottery and glassware	3.0
3406	Wood products	224000	Dining and livingroom furniture	3.2
3407	Furniture	2240	Furniture	3.4
3411	Other articles for household use	2275	Other household appliances and tools	4.0
3500	Bicycles and motorcycles	5574	Mopeds, motor-cycles etc.	2.2
3600	Automobiles	5576	Cars	2.4
3700	Other durables	226	Household appliances and tools	3.5
4101	Solid fuel	2292	Solid fuels	38.5
4102	Liquid fuel	558100	Petrol and motor oils	22.4
4201	Electricity	229110	Electricity	49.4
4202	Gas	229010	Natural gas	59.1
4203	Water	441000	Water	2.4
4300	Gross rent	2200	Rent and rental value	1.2
4400	Expenditure in restaurants etc.	1193	Outdoor consumption	4.1
4500	Entertainment services	5530	Music, singing and theatre	1.9
4601	Transport services	558430	Cargo services	6.8
4602	Communication	5582	Other transport and communication services	1.9
4700	Medical care	446	Medical care	3.0
4801	Flowers and plants	222200	Indoor plants and flowers	15.6
4802	Paper products	550200	Study books and educational appliances	2.6
4803	Cosmetic products	4440	Cosmetics and perfumery	2.5
4804	Detergents	441210	Detergents	6.8
4805	Medical/pharm. products	44600	Medicines, wound-dressings and prostheses	1.7
4806	Goods/serv. by publishers	550500	Newspaper and weekly papers	5.7
4807	Maintenance services	227800	Repair and maintenance of household appl.	1.1
4808	Service of cleaning firms	440230	Window cleaning service etc.	0.1
4809	Household services	4400	Domestic services	0.6
4810	Service of hairdresser/beauty shops	443000	Hairdresser	1.4
4811	Service of dyers/laundries	440100	Laundry, dry cleaning, dye works	3.0
4812	Service of swimming establishments	5510	Sports and games	2.6
4813	Shoe repair	338000	Shoe repairs	2.3
4814	Service of photographers	554420	Film and photo accessories	1.7
4815	Service of metal-using craft	221140	Service for maintenance of central heating	1.0
4816	Banking services			1.0
4817	Insurance services			1.0
4818	Services, n.e.c.			1.0
4819	Social services			excluded
4820	Contrib. inst. of worship			excluded
4821	Government services			excluded
4822	Goods, n.e.c.			3.5

APPENDIX D The classification of the main consumption categories

Table D1 contains the classification of the main consumption categories, constructed from the approx. 100 consumption categories from the National Accounts (CBS, 1991). We tried to make the classification of the main consumption categories about the same as the classification of the main consumption categories of the budget surveys. Next, we describe the partition of some consumption categories over two main consumption categories.

The main consumption category 'Household effects' contains amongst others a part of the consumption category nr.3411: 'Other articles for household use'. This part consists of the sub consumption categories nr.3403: 'household utensils', nr.3408: 'washing machines and refrigerators' and the half of the sub consumption category nr.3411: 'other articles for household use', according to the National Accounts (CBS, 1991).

The main consumption category 'Leisure and education' contains amongst others the other part of the consumption category 3411, 'other articles for household use' (nr.3411), containing the sub consumption categories nr.3409: 'radio/TV', nr.3410: 'records and cassettes' and the half of the sub consumption category nr.3411: 'other articles for household use', according to the National Accounts.

The consumption category 'Heating' contains till the year 1955 the category nr.4102 'Liquid fuel', which contains fuel oil and petrol. After 1955 only fuel oil is included in this main consumption category. From the year 1955 the expenditure on petrol is separately known and assigned to the main consumption category 'Petrol'. Before 1955 the energy requirement of petrol is included in the energy requirement for heating.

Table D1 The constructed classification of the main consumption categories based on the National Accounts for the time range 1948 to 1988.

nr.	FOOD	nr.	Ice-cream	nr.	LEISURE AND EDUCATION
1101	Rice, groats and oatmeal	2400	Expenditure in restaurants etc.	4500	Entertainment services
1102	Noodles/macaroni	4400		4802	Paper products
1103	Tea	nr.	HOUSE	4806	Goods/serv. by publishers
1104	Coffee	4300	Gross rent	4812	Serv. of swimming establishments
1105	Cocoa			4814	Serv. of photographers
1106	Chocolate spread	nr.	HOUSEHOLD EFFECTS	3700	Other durables
1107	Sugar	3401	Heating equipment	3411	Other articles for household use
1108	Fruit preserves	3404	Earthenware for household use	2201	Cigars/cigarillos
1109	Margarine	3405	Glassware	2202	Cigarettes
1110	Edible fat	3406	Wood products	2203	Cut tobacco
1111	Edible oils	3407	Furniture		
1113	Other groceries	3411	Other articles for household use	nr.	TRANSPORT
1201	Standard milk	4801	Flowers and plants	3500	Bicycles and motorcycles
1202	Butter	4807	Maintenance services	3600	Automobiles
1203	Cheese	4815	Serv. of metal-using craft	4601	Transport services
1204	Cream and condensed milk			4602	Communication
1205	Skimmed-/butter milk	nr.	CLOTHING AND FOOTWEAR		
1206	Yoghurt	3101	Men's outer garments		
1207	Chocolate milk	3102	Ladies outer garments	HEATING	
1208	Special milk products	3103	Underwear and nightwear	4101	Solid fuel
1209	Eggs	3104	Rain garments	4102	Liquid fuel
1300	Bread	3105	Stockings and socks		Gas
1401	Potatoes	3106	Fashion articles	nr.	ELECTRICITY
1402	Vegetables	3107	Yarns	4201	Electricity
1403	Fruit	3108	Woven fabrics		
1405	Vegetable preserves	3109	Soft furnishing	nr.	PETROL
1501	Beef and veal	3112	Other textile products	4102	Liquid fuel
1502	Pork	3200	Footwear		
1503	Other meat	3300	Leather articles	nr.	OTHER CONSUMPTION
1504	Meat preserves/meat products	4813	Shoe repair	4816	Banking services
				4817	Insurance services
				4818	Services, n.e.c.
				4822	Goods, n.e.c.
1505	Poultry (incl. ducks)	nr.	HYGIENE AND MEDICAL CARE		
1601	Fresh fish	4203	Water		
1602	Fish preserves	4803	Cosmetic products		
2101	Sugar and chocolate products	4804	Detergents		
2102	Ginger bread	4808	Serv. of cleaning firms		
2103	Dutch rusks	4809	Household services		
2104	Biscuits/cakes/pastry	4810	Serv. of hairdr./beauty shops		
2105	Pastry products	4811	Serv. of dyers/laundries		
2301	Beer	4700	Medical care		
2302	Other alcoholic beverages	4805	Medical/pharm. products		
2303	Non-alcoholic beverages				

APPENDIX E Matching the consumption categories

Table E1 shows which consumption categories of the National Accounts (CBS, 1991) are matched with which sectors that produce goods and services for the households.

Table E1 The main consumption categories of the National Accounts and the matched sectors (Wilting, 1992) that produce goods and services for the households.

nr.	Consumption category	sector number
1101	Rice, groats and oatmeal	8
1102	Noodles/macaroni	10
1103	Tea	12
1104	Coffee	12
1105	Cocoa	11
1106	Chocolate spread	11
1107	Sugar	11
1108	Fruit preserves	7
1109	Margarine	12
1110	Edible fat	12
1111	Edible oils	12
1113	Other groceries	12
1201	Standard milk	6
1202	Butter	6
1203	Cheese	6
1204	Cream and condensed milk	6
1205	Skimmed-/butter milk	6
1206	Yoghurt	6
1207	Chocolate milk	6
1208	Special milkproducts	6
1209	Eggs	6
1300	Bread	10
1401	Potatoes	7
1402	Vegetables	7
1403	Fruit	7
1405	Vegetable preserves	7
1501	Beef and veal	5
1502	Pork	5
1503	Other meat	5
1504	Meat preserves/meat products	5
1505	Poultry (incl. ducks)	5
1601	Fresh fish	7
1602	Fish preserves	7
2101	Sugar and chocolate products	11
2102	Ginger bread	10
2103	Dutch rusks	10
2104	Biscuits/cakes/pastry	10
2105	Pastry products	10
2201	Cigars/cigarillos	14
2202	Cigarettes	14
2203	Cut tobacco	14
2301	Beer	13
2302	Other alcoholic beverages	13
2303	Non-alcoholic beverages	13

nr.	Consumption category	sector number
2400	Ice-cream	6
3101	Men's outer garments	19
3102	Ladies outer garments	19
3103	Underwear and nightwear	19
3104	Rain garments	19
3105	Stockings and socks	17
3106	Fashion articles	19
3107	Yarns	19
3108	Woven fabrics	18
3109	Soft furnishing	18
3112	Other textile products	18
3200	Footwear	20
3300	Leather articles	20
3401	Heating equipment	31
3404	Earthenware for household use	29
3405	Glassware	29
3406	Wood products	21
3407	Furniture	21
3411	Other articles for household use	31
3500	Bicycles and motorcycles	35
3600	Automobiles	34
3700	Other durables	33
4101	Solid fuel	25
4102	Liquid fuel	25
4201	Electricity	37
4202	Gas	38
4203	Water	39
4300	Gross rent	49
4400	Expenditure in restaurants etc.	42
4500	Entertainment services	56
4601	Transport services	45
4602	Communication	46
4700	Medical care	55
4801	Flowers and plants	1
4802	Paper products	23
4803	Cosmetic products	27
4804	Detergents	27
4805	Medical/pharm. products	27
4806	Goods and services by publishers	24
4807	Maintenance services	43
4808	Services of cleaning firms	50
4809	Household services	50
4810	Services of hairdr./beauty shops	50
4811	Services of dyers/laundries	50
4812	Services of swimming establishments	56
4813	Shoe repair	43
4814	Services of photographers	57
4815	Services of metal-using craft	43
4816	Banking services	47
4817	Insurance services	48
4818	Services, n.e.c.	57
4819	Social services	-
4820	Contributions inst. of worship	-
4821	Government services	-
4822	Goods, n.e.c.	57