

DATA PROVIDED FOR W.D. NORDHAUS STUDY:
THE DEMAND FOR ENERGY: AN
INTERNATIONAL PERSPECTIVE*

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PREFACE

This paper is part of the Energy Demand Publication Series. The Series reflects the work on this broad subject that forms a major line of activities of the IIASA Energy Project. A first step in the econometric analysis of energy demand was achieved with the Workshop on Energy Demand that was held in May of 1975. This conference and its proceedings were prepared under the careful guidance of Prof. W.D. Nordhaus of Yale University and with the support of the Ford Foundation. The proceedings are published in IIASA CP-76-1. The plan for IIASA's econometric studies was outlined by P. Tsvetanov on the occasion of the Status Report of the Energy Project in October of 1975.* Following these publications, a number of Research Memoranda and Reports are in preparation that highlight and serve to complete the presentation of the various aspects of energy demand as it is dealt with at the International Institute.

The present paper on Data provided for the W.D. Nordhaus study The Demand for Energy: An International Perspective, published in IIASA CP-76-1, pp. 511-587, follows up on that major contribution by W.D. Nordhaus which is part of the proceedings of the above mentioned demand workshop.

The compilation of the data for a group of seven Western countries covering a span of more than 20 years, was carried out under the overall guidance of Prof. W.D. Nordhaus. The work started in 1974 with the assistance of Mr. Paul Krugman, Mrs. Truus Koopmans and Mr. Richard Vahrenkamp. The first revision and updating of U.S. energy prices was completed in January 1976.

It is believed that the publication of the data underlying the econometric study, and the indication of definitions and sources used, might provide the reader with a set of data not readily available. It could also serve as a guide to the compilations required for updating and addition of countries.

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ABSTRACT

This paper concerns the variables underlying the economic study by Prof. W.D. Nordhaus on "The Demand for Energy: An International Perspective" (CP-76-1, International Institute for Applied Systems Analysis, Laxenburg, Austria, 1976). The data for seven Western countries, covering a span of more than twenty years, include energy consumption and prices for four types of fuels: solid, gaseous, liquid fuels and electricity; by economic sectors: energy, industry, transport and household.

The publication of the data with indications of the sources, definitions and methods used, provides the reader with a set of data not readily available elsewhere. Besides, this paper can also be used as a guide to updating the statistics, as well as for broadening the base of the study through the inclusion of additional countries from East and West.

1. INTRODUCTION

The econometric study The Demand for Energy: An International Perspective (IIASA publication CP 76-1, pp. 511-587) covers seven Western countries (Belgium, F.R.G., France, Italy, Netherlands, United Kingdom, United States) from the mid 1950's to the early 1970's. The results of the study rely on three sets of variables: final energy consumption, energy prices and macro-economic data. For solid, gaseous, and liquid fuels, as well as electricity, the consumption and price data were compiled for four sectors of the economy: energy; industry; transportation; and domestic, or households representing the residual sector. Consumption data are in natural units. All price data are in national currencies; prices for solid, liquid and gaseous fuels were converted from natural units to Btu's; electricity prices are per kWh. Macro-economic data, such as national accounts and wage rates, shown on the accompanying tables, are in national currencies; for pooling purposes, not shown below, data were translated into a universal standard of value by means of a purchasing power parity rate.¹

The notes following indicate for each set of variables the sources, definitions, and methods of conversion used. The data, as prepared for the computer, are shown in the Appendix, Tables I, II and III.

¹See explanation in IIASA publication CP-76-1, p. 526.

2. CONSUMPTION OF ENERGY

2.1 SOURCES AND DEFINITION OF FINAL CONSUMPTION

All fuel consumption data for the seven western economies (Belgium, the Federal Republic of Germany, France, Italy, Netherlands, the United Kingdom, and the United States) are compiled from the OECD Statistics of Energy [13], [14]. The consumption of the four sectors (energy, industry, transport, domestic) represents internal final consumption.

The OECD states:

The term "final" implies that quantities converted into electricity or into other fuels are not included. In other words, internal final consumption of an energy source is that amount used directly for producing energy within the country or area concerned. If the internal consumption figures for all energy sources or any country or area are reduced to a common unit and then added together, the total obtained contains no duplication because the quantities converted into electricity or into other fuels have been excluded.²

The "final consumption" corresponds to the concept of sectorial net energy consumption used in the Energy Demand study.³ By this definition, fuel consumption data are different from the coverage of most national sources of statistics, that is Statistical Yearbooks, of both Eastern and Western economics. The difference is particularly noticeable in the solid fuels consumption statistics, energy and industry sectors, where national data include the consumption of coal to generate thermal electricity, as well as coal input for coke production, gas works, and briquetting plants.

Consequently, in order to assure comparability between the fuel consumption data for Western economies (compiled from OECD data) and Eastern economies (compiled from national statistical sources) it is necessary to adjust the latter by excluding the fuel used for transformation (of primary fuel).

² OECD "Statistics of Energy, 1959-1973" (Paris, 1974), P.7.

³ See IIASA, CP-76-1, p. 563.

2.2 COMPOSITION OF SECTORS

2.2.1 Energy

The energy sector excludes fuels used for conversions as stated by the OECD above. For instance, in the case of solid fuels, the "energy sector" covers only coal used as a direct source of energy within the coal industry; it excludes coal burned in pithead power stations (conversion) and free allocations to miners (household consumption).

The energy sector includes "distribution losses." (See above.) This is an important item in the cases of blast furnace gas (OECD Standard Table 7) and electricity (OECD Standard Table 21), [13], [14].

2.2.2 Industry

This sector covers all undertakings engaged in manufacturing as defined by the United Nations Standard Industrial Classification of all Economic Activities, with the exception of petroleum refineries; the refineries are included in OECD statistics in the energy sector.

Again, as stated by the OECD above, the consumption of the industry sector excludes fuel used for conversion.

2.2.3 Transport

This sector includes air, road, and railroad transport, as well as internal and coastal navigation. It includes both "public" sector and private transportation, a fact which needs to be considered for comparability of data for Eastern and Western economies.

2.2.4 Domestic, Household, or Residual

This sector represents the difference between "total internal final consumption" and the sum of the three above mentioned sectors. Thus, "domestic or households" includes agriculture as well as trade.

2.3 COMPOSITION OF FUELS

2.3.1 Solid Fuels

Solid fuels consumption for the seven Western countries (Belgium, the FRG, France, Italy, Netherlands, the UK, and the US) were compiled from standard tables 1 to 6 of the OECD "Statistics of Energy." [13], [14]. Thus the solid fuels consumption consists, where applicable, of "hard coal," "patent fuel,"

"oven coke," "gas coke," "brown coal," and "brown coal briquettes." The coal consumption data are given in terms of 1,000 metric tons. No adjustments were made to take into account any differences in quality and calorific value of the various types of coal.

2.3.2 Gas

This comprises "blast furnace gas" (Standard Table 7 of the OECD statistics) and "gas except blast furnace gas" (Standard Table 8 of the OECD statistics). The "gas except blast furnace gas" comprises, where applicable, natural gas and methane from coal mines, gas works gas, coke oven gas, refinery gas, and for the FRG "other gas" which consists mostly of producer gas.

The reason for the OECD's presenting a separate table for "blast furnace gas" is "that the quantities produced are large and that, with its low calorific value (about 1,000 Kcal/m³) it cannot be mixed with other gases but has to be used as a separate product for specific applications." The distribution losses are part of the internal final consumption and are included in the energy sector.

It may be noted that the OECD Statistics on quantities of gas consumed (Standard Tables 7 and 8) give data in million of cubic meters at 4200 Kcal for the period 1955-1969, whereas data are given in Teracalories (10⁹Kcal) for the years 1959-1973. In this memorandum we have presented all gas consumption quantities in million m³ at 4200 Kcal.

2.3.3 Liquid Fuels

This group is comprised of liquefied gases, aviation gasoline, motor gasoline, jet fuel, kerosene, gas oil (for diesel engines), gas oil (for burning), and fuel oil. (OECD Standard Tables 12-18). Data are given in 1000 metric tons; adjustments for differences in calorific value were not made.

2.3.4 Electricity

Electricity consumption (OECD Standard Table 21) is given in million kwh. It may be noted that "distribution losses" are included in the "total internal final consumption." The "distribution losses" are part of the energy sector consumption. This explains why the energy sector electricity consumption amounts generally to about one-quarter of the total internal final consumption of electricity.

3. PRICES OF ENERGY

3.1 Sources and Definitions

Fuel prices for Belgium, the FRG, France, Italy, and the Netherlands were mostly compiled from the Statistical Office of the European Communities (EUROSTAT): Energy Statistics, including Yearbooks [10a - 10c]; special numbers [6], [9]; Supplements [7], [8]; and "Statistische Studien und Erhebungen [11a, 11b].

Fuel prices for the UK were compiled mainly from the publications of the UK Department of Energy Digest of UK Energy Statistics [16].

Fuel prices for the US were compiled from the Department of Interior's Minerals Yearbook [26]; the Department of Commerce Survey of Current Business [22], [23]; the Bureau of Labor Statistics, Handbook of Labor Statistics [28] and Retail Prices and Indexes of Fuels and Utilities [29], and the Federal Power Commission. Typical Electric Bills [30] as well as the American Petroleum Institute's Petroleum Facts and Figures [1] and Platt's Oil Price Handbook [15].

Prices of liquid fuels for transportation for all countries except the US were compiled from the publication of the Comité Professionnel du Pétrole, "Pétrole 1973" (Paris, 1974) [5]. We have assumed that prices are the same for the energy and industry sectors. We have assumed further that except for liquid fuels for transportation, the industry sector prices and fuels apply also to the transportation sector. The domestic household, or residual sector prices are retail consumer prices of the types of fuels used by households. Prices for all four sectors of the economy include taxes.

The price in natural units for the particular fuels selected to represent the prices typical for sectors of consumption, the factors of conversion from natural units to Btu's, and the sources from which these data were compiled are detailed below.

3.2 SOLID FUELS

3.2.1 Belgium

Industry, Energy, and Transportation Sectors

EUROSTAT was not able to provide listings of industrial coal prices [6]. The coking coal, coming from "Campine," is assumed to be the coal used by industry. "Consumer market prices" for this coal, as of July, for the years 1955-1968, in

Belgian Francs per ton, are shown in [7], p. 108.

Extrapolations 1969-1973 were made on the basis of prices for "Charbon Indigène; Fine à Coke Campine-Prix de Barème" [10c] p. 22. The conversion of coal prices from tonnes to Btu's is as follows:

$$1 \text{ kg "Kokskohle"} = 7,000 \text{ Kcal}$$

$$1 \text{ Kcal} = 3.97 \text{ Btu}$$

for example in 1968

$$1 \text{ tonne "Kokskohle"} = \text{Belgian Francs (BF) } 884$$

$$10^6 \text{ Btu "Kokskohle"} = \text{BF } 31.81$$

$$\frac{\text{Price per tonne}}{3.97 \times 7,000,000} = \text{Price per Btu}$$

$$3.97 \times 7,000,000$$

$$\frac{\text{Price per tonne}}{3.97 \times 7.0} = \text{Price per } 10^6 \text{ Btu}$$

$$3.97 \times 7.0$$

$$\frac{884}{3.97 \times 7.0} = \frac{884}{27.79} = \text{BF } 31.81 \text{ per } 10^6 \text{ Btu}$$

Coal: Domestic Sector:

The coal price was calculated as the average of two types of coal:

- a) anthracite number 3 nuts (1367 kg of equivalent calorific value); and
- b) group II, number 3 nuts (1464 kg of equivalent calorific value) [6], p. 106.

Extrapolations, 1971-1972, were made on the basis of coal price statistics published by the Belgian Statistical Office. The conversion of coal prices from tonnes to Btu's is as follows:

$$1 \text{ kg "domestic coal"} = 10,250 \text{ Kcal estimated}$$

$$1 \text{ Kcal} = 3.97 \text{ Btu};$$

for example in 1970

$$\begin{aligned} \text{"Domestic Coal" price} &= \text{BF } 3514 \text{ per Tonne} \\ &= \text{BF } 102.961 \text{ per } 10^6 \text{ Btu} \end{aligned}$$

$$\frac{\text{Price per tonne}}{3.97 \times 10,250,000} = \text{Price per Btu}$$

$$\frac{\text{Price per tonne}}{3.97 \times 10.250} = \text{Price per } 10^6 \text{ Btu}$$

$$\frac{3,514}{3.97 \times 10.250} = \text{BF } 102.961 \text{ per } 10^6 \text{ Btu}$$

3.2.2 Federal Republic of Germany

Coal: Industry, Energy, and Transport Sectors

This is the price of soft coal Number 3/4 nuts (1,386 kg of equivalent calorific value) sold to industry at Düsseldorf, as of July, for the years 1956-1970 [6], p. 15.

Extrapolations, 1970 to 1973, were made on the basis of the price index for "Koksfeinkohle Ruhr" (Eurostat Yearbook 1973, [10C] p.10). The conversion of coal prices from tonnes to Btu's is as follows:

$$1 \text{ kg industrial coal} = 9,700 \text{ Kcal}$$

$$1 \text{ Kcal} = 3.97 \text{ Btu}$$

For example, 1970 industry coal price

$$\begin{aligned} &= \text{DM } 143.70/\text{Tonne} \\ &= 3.73 \text{ per } 10^6 \text{ Btu} \end{aligned}$$

$$\frac{\text{Price per tonne}}{3.97 \times 9,700,000} = \text{Price per Btu}$$

$$\frac{\text{Price per tonne}}{38.51} = \text{Price per } 10^6 \text{ Btu}$$

$$\frac{143.70}{38.51} = \text{DM } 3.73 \text{ per } 10^6 \text{ Btu}$$

Coal: Domestic Sector

This is the price of coke Number 3 (1,470 kg quantities of equivalent calorific value) sold at Düsseldorf in the domestic sector, as of July, for the years 1956-1970 [6] p.24. Extrapolations, 1971 to 1973 were made on the basis of the retail price index for coal and other solid fuels, sold to households [Germany, BRD Statistisches Jahrbuch, 1970 [3] p.430; 1974 [4] p.454]. The conversion of coal prices of tonnes to Btu's is as follows:

1 kg household coal = 10,000 Kcal

1 Kcal = 3.97 Btu;

For example in 1970

1 tonne coal = DM 286.70

10^6 Btu = DM 7.22

$\frac{\text{Price per tonne}}{3.97 \times 10,000,000}$ = Price per Btu

$\frac{\text{Price per tonne}}{39.7}$ = Price per 10^6 Btu

$\frac{286.7}{39.7}$ = DM 7.22 per 10^6 Btu

3.2.3 France

Coal: Industry, Energy, and Transport Sectors:

This is the price of soft coal 1/2 "gras" (1,393 kg of equivalent calorific value) sold in Paris to industry, as of July, for the years 1955-1970 [6], p.42. The conversion of coal prices from tonnes to Btu's is as follows:

1 kg industrial coal = 9,750 Kcal estimated

1 Kcal = 3.97 Btu;

for example in 1969

10^6 Btu tonne
industrial coal = 145.43 French Francs (FF)

= FF 3.76

$\frac{\text{Price per tonne}}{3.97 \times 9,750,000}$ = Price per Btu

$$\frac{\text{Price per tonne}}{3.97 \times 9.750} = \text{Price per } 10^6 \text{ Btu}$$

$$\frac{145.43}{38.71} = \text{FF } 3.76 \text{ per } 10^6 \text{ Btu}$$

[Note: the 1970 industrial coal price is estimated as FF 4.73 per 10^6 Btu]

Coal: Domestic Sector:

The coal price was calculated as the average of two types of coal:

- a) lean coal, Number 3 nuts (1,457 kg of equivalent calorific value) sold to the domestic sector in Paris, as of July, for the years 1955-1970 [6], p.52; and
- b) Anthracite ovoids (1,360kg of equivalent calorific value) sold to the domestic sector in Paris, as of July, for the years 1955-1970 [6], p.52. The conversion of coal prices from tonnes to Btu's is as follows:

$$1 \text{ kg household coal} = 10,140 \text{ Kcal}$$

$$1 \text{ Kcal} = 3.97 \text{ Btu};$$

for example in 1970

$$\text{Household coal price} = \frac{501.0 + 359.3}{2} \text{ FF/Tonne}$$

$$= 430.15 \text{ FF/Tonne}$$

$$= 10.68 \text{ FF}/10^6 \text{ Btu}$$

$$\frac{\text{Price per tonne}}{397 \times 10,140,000} = \text{Price per Btu}$$

$$\frac{\text{Price per Tonne}}{40.27} = \text{Price per } 10^6 \text{ Btu}$$

$$\frac{430.15}{40.27} = \text{FF } 10.68 \text{ per } 10^6 \text{ Btu}$$

$$\frac{\text{Price per tonne}}{3.97 \times 7,500,000} = \text{Price per Btu.}$$

$$\frac{\text{Price per tonne}}{29.78} = \text{Price per } 10^6 \text{ Btu.}$$

$$\frac{21,230}{29.78} = 712.9 \text{ Lire per } 10^6 \text{ Btu.}$$

3.2.5 Netherlands

Coal: Industry, Energy, and Transportation Sectors

The coal price was calculated as the weighted average, based on coal consumption data, of:

- a) Coke III (30-40 mm) - consumer market prices, Rotterdam, as of July for the years 1955-1968 in Fl per tonne [7], p.98
- b) American imported coal, 1960-1973 in US\$ per tonne [5], p.101 and later issues of the yearbook. Dollar prices were converted to Fl. The conversion of coal prices from tonnes to Btu's is as follows:

1 kg industrial coal = 7,060 Kcal estimated

1 Kcal = 3.97 Btu;

For example:

$$\frac{\text{Price per tonne}}{3.97 \times 7.06} = \text{Price per } 10^6 \text{ Btu.}$$

$$1970 \text{ Price} = \frac{131.2 \text{ Fl/tonne}}{3.97 \times 7.00}$$

$$= \frac{131.2 \text{ Fl/tonne}}{28.03}$$

$$= 4.69 \text{ Fl}/10^6 \text{ Btu.}$$

Coal: Domestic Sector

This is the price of "Anthracite 6-10" (1,367kg of equivalent calorific value) sold in Rotterdam, domestic sector, as of July for the years 1955 to 1970 [6], p.89. The conversion of coal prices from tonnes to Btu's is as follows:

1 kg "Domestic Coal" = 10,000 Kcal estimated;

1 Kcal = 3.97 Btu;

For example:

1970 domestic coal price = 225.14 Fl/tonne

$$\frac{\text{Price per tonne}}{3.9 \times 10,000,000} = \text{Price per Btu.}$$

$$\frac{\text{Price per tonne}}{39.7} = \text{Price per } 10^6 \text{ Btu.}$$

$$1970 \text{ price per } 10^6 \text{ Btu} = \frac{225.14 \text{ Fl}}{39.7} = 5.67 \text{ Fl}$$

3.2.6 United Kingdom

Coal: Industry, Energy, and Transportation Sectors:

This is the price in £ per ton of "coal used by industry" in Great Britain, shown i.e. for the years 1963-1973 in the U.K. Department of Energy, "Digest of U.K. Energy Statistics 1974," [16], p.130, Table 86.

Conversion of coal price from Ton [not Tonne] to Btu.

$$1 \text{ kg} = 7.050 \text{ Kcal}$$

$$1 \text{ Kcal} = 3.97 \text{ Btu}$$

Example:

$$\begin{aligned} 1970 \text{ price} \\ \text{industrial coal} &= 6.70 \text{ £ per Ton} \\ &= 0.2393 \text{ £ per } 10^6 \text{ Btu} \end{aligned}$$

$$\frac{\text{Price per ton}}{3.97 \times 7.05} = \text{Price per } 10^6 \text{ Btu}$$

$$\frac{\text{Price per ton}}{28} = \text{Price per } 10^6 \text{ Btu}$$

$$= \frac{6.70}{28} = 0.2393 \text{ £ per } 10^6 \text{ Btu}$$

Coal: Domestic sector:

This is the typical retail winter price in £ per cwt of anthracite nuts I sold in London (see, for instance, December

1971 to December 1973 prices in U.K. Department of Energy, Digest of U.K. Energy Statistics, 1974, [16], p.128, table 85.)
Note: 1 cwt = 100 lbs.

Conversion of price per cwt to Btu

1970 price = 133 Pence per cwt
= £ 1.33 per cwt

$$\frac{1.3300}{1.4495} = \text{£ } 0.918 \text{ per } 10^6 \text{ Btu}$$

3.2.7 United States

Coal: Industry, Energy and Transportation Sectors

This is the average of the wholesale price of two types of Bituminous Coal, the "Screenings, industrial", and "Domestic, large", both f.o.b. car at mine, and added to it are railroad freight charges.

Wholesale prices.

The price per short ton of bituminous, f.o.b. car at mine for "screenings, industrial" and "domestic, large", for the period 1954 to 1972 is given in the 1973 Supplement to the Survey of Current Business, [23], p.164. Prices were backdated, 1954 to 1950, with the Coal wholesale price index published in the 1973 Supplement to Business Statistics, [23], p.46.

Prices were updated, 1973 to June 1975, with the wholesale price index for Bituminous Coal, published in the Survey of Current Business [22] November 1975, Table S-34.

Freight charges - 1968-1972:

Railroad freight charges, compiled by the Interstate Commerce Commission are reproduced for the years 1968 to 1972 in the Minerals Yearbook, Vol.I, Chapter on Coal - Bituminous and Lignite, Standard Table 1, 1975 [27]), p.335; and 1972 [26], p.329.

Updating, 1972 to 1975: For lack of readily available data, the freight charges were updated on the basis of the "Price index for railroad freight, for Class I Railroads", shown in the Survey of Current Business, 1975 [22], No.11, Table S-25 [Transportation and Communication].

Backdating, 1950 to 1967: The freight charges 1950 to 1967 were estimated on the basis of the "Price Index for Public Transportation (see, BLS Consumer Price Index, Public Transportation, in 1973 Supplement to Survey of Current Business [23] p.42).

Conversion of industry coal price from short tons to Btu's.

1 short ton of coal,
for industrial use = 6,420,000 Kcal
= 3.97 Btu

Example:

1970 Average Price per short ton of Delivered
Bituminous Coal

\$ 8.644 f.o.b., mine
+ 3.410 freight charge
\$12.054

$\frac{\text{Price of 1 short ton}}{3.97 \times 6,420,000} = \$ \text{ price for } 10^6 \text{ Btu}$

$\frac{\$ 12.054}{25.48} ; = \$ 0.4729 \text{ per } 10^6 \text{ Btu}$

Coal: Household Sector

This consists of the 1963 average retail price of coal, extrapolated on the basis of the BLS wholesale price index of coal published in the 1973 Supplement to the Survey of Current Business [23], p.46, and the Survey of Current Business, i.e. December 1973 and November 1975 [22], Table S-9.

1963 average retail price of coal. This is based on the BLS data, underlying their retail price indexes of Fuels and Utilities, [29], provided by correspondence, on the annual average 1963 prices of

Stove size anthracite = \$29.39 per short ton
Anthracite Buckwheat No.1 = \$20.26 per short ton
Bituminous, all sizes = \$17.40 per short ton

We estimate the weighted average retail price of 1963 household coal as \$24.21 per short ton on the basis of 1971 deliveries of coal to retailers.

1971 Distribution of U.S. Coal

	1,000 short tons	%
Bituminous coal and lignite, ^{a/}		
Distribution to retail dealers	11,144	87
Pennsylvania Anthracite, ^{b/}		
Retail Dealer Deliveries		
Chestnut and larger	844	7
Pea	334	3
Buckwheat No. 1 and rice	<u>443</u>	<u>3</u>
Total	12,765	100

a/ U.S. Minerals Yearbook, 1971, Vol.I, p.367

b/ U.S. Minerals Yearbook, 1971, Vol.I, p.388

Conversion of household coal price from short tons to Btu:

1 short ton of household coal = 6,420,000 Kcal

1 Kcal = 3.97 Btu

Example:

1970 average retail price per short ton of household coal = \$38.79
[This is the 1963 price of \$24.21, extrapolated to 1970 on the basis of the price index 1970 = 160.23; 1967 = 100].

$$\frac{\text{Price of 1 short ton}}{3.97 \times 6,420,000} = \$ \text{ Price per } 10^6 \text{ Btu}$$

$$\frac{\$ 38.79}{3.97 \times 6,420,000} ;$$

$$\frac{\$ 38.79}{25.48} = \$ 1.5225 \text{ per } 10^6 \text{ Btu}$$

3.3 GASEOUS FUELS

Note: In Belgium, The Federal Republic of Germany, France, and the Netherlands, natural gas consumption rose from 1% in 1967 to more than 70% in 1972. The gas prices for these countries represent "manufactured gas" for the 1950's and most of the 1960's compiled from EUROSTAT, [11a] and extrapolations for early years.

From 1967 on, these gas prices were calculated as the weighted average of natural and manufactured gas prices, where the weights are the shares in the sectors' consumption. The method of calculating, i.e., the 1970 gas prices, is to start with the price of natural gas and to adjust it by the ratio of manufactured gas in total consumption, and the price of manufactured gas, to as to derive at the "weighted average prices of natural and manufactured" gas.

In Italy, natural gas consumption had an earlier start, and gas prices for the entire period represent weighted averages. For the UK and the US, it was not necessary to compile weighted averages, as these were supplied by the source.

3.3.1 Belgium

Gas: Industry, Energy, and Transportation Sector

This is based on the July price for natural gas, schedule I, 3-2 per 9.65 Gcal [6] p.113.

Example:

1970 natural gas price = 1,100 BF per 9.65 Gcal
= 113.99 BF per 1 Gcal
1970 weighted average
gas price = 156.70 BF per 1 Gcal.

Conversion to Btu

1 Gcal = 3.97×10^6 Btu

$$\frac{1970 \text{ average price per 1 Gcal}}{3.97 \times 10^6} = \frac{156.70}{3.97 \times 10^6} =$$
$$39.47 \text{ BF per } 10^6 \text{ Btu}$$

Gas: Household Consumption

This is based on the natural gas price per 10.25 Gcal, following schedule D3, meaning deliveries of 20 Gcal per year [6], p.117.

Example:

1970 natural gas price = 4,643 BF per 10.25 Gcal

$$\frac{4,643}{3.97 \times 10.25 \times 10^6} = \frac{4,643}{40.69 \times 10^6} = 114.11 \text{ BF per } 10^6 \text{ Btu}$$

3.3.2 Federal Republic of Germany

Gas: Industry, Energy, Transportation Sector

Example: See EUROSTAT, [11b], p.32

1970 Price of city gas in Munich (schedule I,3-1)
= 309.7 DM per 10 Gcal

1970 Price of Natural Gas in Munich (schedule I,3-1)
= 185.5 DM per 10 Gcal

1970 Price of Natural Gas in Munich (schedule I,4-1)
= 103.1 DM per 10Gcal

1970 Price of Natural Gas Frankfurt (schedule I,3-2)
= 168.0 DM per 9.7 Gcal

1970 Price of Natural Gas Frankfurt (schedule I,4-2)
= 118.0 DM per 9.7 Gcal

1970 weighted average price
= 229.4 DM per 10 Gcal

Conversion to Btu:

$$\frac{229.4}{39.7 \times 10^6} = 5.78 \text{ DM per } 10^6 \text{ Btu}$$

Gas: Household

Example (see i.e. EUROSTAT, [11b], p.36).

1970 Price of natural gas, Dusseldorf
= 293 DM per 10 Gcal

1970 weighted average gas price
= 259.80 DM per 10Gcal

Conversion to BTU

$$\frac{259.80}{39.7 \times 10^6} = 6.54 \text{ DM per } 10^6 \text{ Btu}$$

3.3.3 France

Gas: Industry, Energy and Transportation Sector

These are Paris wholesale prices, for schedule 13-1, meaning annual consumption = 10^4 Gcal; duration of utilization 1,600 hours, modulation 200 days (see EUROSTAT, [11a], p.205).

Example:

1970 natural gas price = 210.70 FF per 10 Gcal

average gas price = 280.80 FF per 10 Gcal

$$\text{Conversion to Btu} = \frac{272.3}{3.97 \times 10^6} = 6.86 \text{ FF per } 10^6 \text{ Btu}$$

Gas: Household sector Paris prices. This is based on EUROSTAT, Statistical Studies, 1971, No.3, p.193

1970 - D3 schedule = 455 FF per 10Gcal

D4 schedule = 286 FF per 10Gcal

(average) natural gas = 359.7 FF per 10 Gcal

Town = 457.5 FF per 10Gcal

Weighted average
natural and town gas = 417.4 FF per 10Gcal

Conversion to Btu

$$\frac{417.4}{39.7 \times 10^6} = 10.51 \text{ FF per } 10^6 \text{ Btu}$$

3.3.4 Italy

Gas: Industry, Energy, Transportation

Based on prices at Milan, Genoa, Verona, Rome; see EUROSTAT, [11b], p.225

Example:

1970 average natural
and city gas prices = 13,576 Lire per 9.5 Gcal

Conversion to Btu:

$$\frac{13,576}{3.97 \times 9.5 \times 10^6} ; \frac{13,576}{37.72 \times 10^6} = \frac{359.915 \text{ Lire per}}{10^6 \text{ Btu}}$$

Gas: Household.

p.216 This consists of prices at Genoa, see EUROSTAT 1974 [11b],
Example:

1970 natural gas price = 7,110 Lire per 1 Gcal

Average natural and
city gas price = 6,168 Lire per 1 Gcal

Conversion to Btu:

$$\frac{6,168}{3.97 \times 10^6} = 1,554 \text{ Lire per } 10^6 \text{ Btu}$$

3.3.5 Netherlands

Gas: Industry, Energy, Transportation

This consists of:

- a) natural gas, at 9.76 Gcal (as of July, in Fl) at Rotterdam [6] p.96
- b) manufactured gas, I-31; at 10Gcal (= million kilocal).

The sale of natural gas in total gas consumption increased from 3.0% in 1955 to 89% in 1971 - according to the EUROSTAT yearbook for 1960-1971, [10b], p.55 and the EUROSTAT Yearbook for 1969-1972, [10c] p.50.

Example

1970 Price (July), Schedule
I, 4-2, Natural gas = 67.7 Fl per 9.76 Gcal

1970 Price, Schedule I,
City gas = 162.0 Fl per 10 Gcal

Weighted average natural
& city gas = 84.8 Fl per 10 Gcal

Conversion to Btu

$$\frac{84.8}{39.7 \times 10^6} = 2.14 \text{ £1 per } 10^6 \text{ Btu}$$

Gas: Household

This consists of the prices, at Rotterdam, of natural gas.

Example:

1970 price schedule D3 = 173.43 F1 per 10.25 Gcal

1970 price schedule D4 = 86.30 F1 per 10.25 Gcal

Average Price = 129.87 F1 per 10.25 Gcal

Conversion to Btu

$$\text{Natural gas} = \frac{129.87}{3.97 \times 10.25 \times 10^6} = 3.19 \text{ F1 per } 10^6 \text{ Btu}$$

3.3.6 United Kingdom

Gas: Industry, Energy and Transportation Sector

The price of gas used by industry, probably a mixture of manufactured and natural, is shown in new pence per therm for the period 1963-1972, in the UK Department of Energy, "Digest of U.K. Energy Statistics," [16], 1974, p.130, Table 86. For conversion from prices per therm to 10^6 Btu see below

Example

1970 industry gas price = 4.52 pence per therm

$$= 0.452 \text{ £ per } 10^6 \text{ Btu}$$

Gas: Household Sector

This is the average net selling value of domestic gas (town gas or natural gas), for the period 1971-1972 shown by the British Gas Corporation, [2], p.54-55. For conversion of prices per therm to 10^6 Btu see below.

Example

1970 household gas price = 10.58 pence per therm

$$= 1.058 \text{ £ per } 10^6 \text{ Btu}$$

3.3.7 United States

Gas: Industry, Energy and Transportation Sector

The industry gas prices were compiled from Total Utility Gas sales to "Industrial customers" in units of Btu, and the revenues from these sales in U.S. dollars, given for the years 1950-1972 in the Supplement to the Survey of Current Business [23], p.130. The data for 1973, 1974 and June 1975 were compiled from the Survey of Current Business, 1975, Number 11, (November) [22], Table S-26.

Gas: Household Sector

This represents the 1974 annual average retail price of gas for residential heating as \$12.24 per 100 therms, given in the BLS Retail Prices and Indexes of Fuels and Utilities, December 1974, [29] Table 2, p.1 [10 therms = 10⁶ Btu = \$ 1.224].

The 1974 prices were extrapolated on the basis of the consumer price index for gas, 1967 = 100, published in the BLS Handbook of Labor Statistics 1975 - Reference Edition, [28] Table 128.

3.4 Liquid Fuels Except Gasoline

3.4.1 Belgium: Industry and Energy Sector

This is the market price, tax included, of "extra heavy fuel oil Bunker C," sold at Brussels, as of July, in Belgian Francs, per tonne, as shown in [9] p.23.

Conversion of fuel oil prices from tonnes to Btu's is done as follows:

$$1 \text{ tonne of heavy fuel oil} = 9,650,000 \text{ Kcal}$$

$$1 \text{ Kcal} = 3.97 \text{ Btu}$$

Example

1970 Fuel oil price = 1,240 BF per tonne

$$\frac{1,240}{9.65 \times 3.97 \times 10^6} = \frac{1,240}{38.31 \times 10^6} = 32.37 \text{ BF per } 10^6 \text{ Btu}$$

Household Sector

This is the weighted average, of the market prices tax included paid in July at Bruxelles for 1,000 kg of:

- a) gas oil for heating, and
- b) light fuel oil

as shown in [9], p.21 and 22.

Conversion of fuel oil prices per tonnes to Btu is done as follows:

1 tonne (light) fuel oil = 10,250,000 Kcal

1 Kcal = 3.97 Btu.

Example

1970 weighted average price = 2,073 BF per tonne

$$\frac{2,073}{10.25 \times 3.97 \times 10^6} = \frac{2,073}{40.69 \times 10^6} = 50.95 \text{ BF per } 10^6 \text{ Btu}$$

3.4.2 Federal Republic of Germany

Industry and Energy Sector

This is the weighted average price, tax included, per tonne of heavy fuel oil sold in Munich (1970 July = 98 DM) and Düsseldorf (1970 July = 89 DM), as shown, [9], p.142.

Conversion of fuel prices from tonnes to Btu is done as follows:

1 Tonne Heavy Fuel Oil = 9,700,000 Kcal

1 Kcal = 3.97 Btu.

Example

1970 Heavy Fuel Oil Price: 92 DM per Tonne

$$\frac{92}{9.7 \times 3.97 \times 10^6} = \frac{92}{38.51 \times 10^6} = 2.39 \text{ DM per } 10^6 \text{ Btu.}$$

Household Sector

This is the market price, tax included, of fuel oil, extra light, sold in Düsseldorf, as of July, in DM per tonne, as shown, [9], p.13.

Conversion of extra light fuel oil from tonnes to Btu is done as follows:

1 tonne of extra light fuel oil = 10,000,000 Kcal

1 Kcal = 3.97 Btu

Example:

1970 weighted average price = 126 DM per tonne

$$\frac{126}{10.0 \times 3.97 \times 10^6} = \frac{126}{39.7 \times 10^6} = 3.17 \text{ DM per } 10^6 \text{ Btu}$$

3.4.3 France

Liquid Fuels: Industry and Energy Sector

This is the market price, tax included, of "Fuel Oil Number 2" sold in Paris, as of July, in French francs per Tonne, as shown [9], p.144.

Conversion of fuel oil prices from tonnes to BTU is as follows:

1 tonne fuel oil = 9,750,000 Kcal

1 Kcal = 3.97 Btu.

Example

1970 Fuel Oil Price = 122.0 FF

$$\frac{120}{9.75 \times 3.97 \times 10^6} = \frac{120}{38.71 \times 10^6} = 3.15 \text{ FF per } 10^6 \text{ Btu.}$$

Liquid fuels: Households

This is the market price, tax included, of "domestic fuel oil" sold in Paris, as of July, in French francs, per tonne [9], p. 143.

Conversion of fuel oil prices from tonnes to Btu is done as follows:

1 Tonne domestic fuel oil = 10,200,000 Kcal

1 Kcal = 3.97 Btu.

Example

1970 Domestic fuel oil price = 256 FF/tonne

$$\frac{256}{10.2 \times 3.97 \times 10^6} = \frac{256}{40.48 \times 10^6} = 6.324 \text{ FF}/10^6 \text{ Btu.}$$

3.4.4 Italy

Liquid Fuels: Industry and Energy Sectors

This is the market price, tax included, of "Olio Combustibile Denso" sold in Milan, as of July, in Lire per tonne, as shown, [9] p.29.

Conversion of fuel oil price per Tonne to Btu is done as follows:

1 tonne of "Olio Combustibile Denso" = 9,500,000 Kcal

1 Kcal = 3.97 Btu

Example

1970 Fuel Oil Price = 14,250 Lire per Tonne

$$\frac{14,150}{9.5 \times 3.97 \times 10^6} = \frac{14,150}{37.72 \times 10^6} = 375 \text{ Lire per } 10^6 \text{ Btu}$$

Liquid Fuels: Household Sector

This is the market price, tax included, of "Olio Combustibile Fluido," sold in Milan, in Lire per tonne, as shown, [9] p.17. Conversion of fuel oil price from tonnes to Btu is done as follows:

1 Tonne "Olio Combustibile Fluido" = 10,200,000 Kcal

1 Kcal = 3.97 Btu

Example

1970 fuel oil price = 19,800 Lire per tonne

$$\frac{19,800}{10.2 \times 3.97 \times 10^6} = \frac{19,800}{40.5 \times 10^6} = 489 \text{ Lire per } 10^6 \text{ Btu}$$

3.4.5 Netherlands

Liquid Fuels: Industry and Energy Sectors

This is the market price, tax included, of "Stookolie 3500" as sold in Rotterdam, as of July in Fl per tonnes, as shown, in [9] p. 148.

Conversion of fuel oil prices from tonnes to Btu is done as follows:

1 tonne "Stookolie 35PP" = 9,860,000 Kcal

1 Kcal = Btu

Example

$$\begin{aligned} 1970 \text{ Fuel Oil pure} &= 82 \text{ Fl/per tonne} \\ \frac{82}{9.760 \times 3.97 \times 10^6} &= \frac{82}{38.75 \times 10^6} = 212 \text{ Fl/per } 10^6 \text{ Btu} \end{aligned}$$

Liquid Fuels: Household Sector

This is the market price, tax included, of "HBO 1" as sold in Rotterdam, as of July, in Fl/per tonne, shown [9], p.148.

Conversion of fuel price per tonne to Btu is as follows:

$$\begin{aligned} 1 \text{ tonne "HBO 1"} &= 10,250,000 \text{ Kcal} \\ 1 \text{ Kcal} &= 3.97 \text{ Btu} \end{aligned}$$

Example

$$\begin{aligned} 1970 \text{ price of household fuel} &= 135 \text{ Fl/per tonne} \\ \frac{135}{10,250 \times 3.97 \times 10^6} &= \frac{135}{40.69 \times 10^6} = 3.3 \text{ Fl/per } 10^6 \text{ Btu} \end{aligned}$$

3.4.6 United Kingdom

Liquid Fuels: Industry and Energy Sectors

This is the price of "fuel oil used by industry," in £ per ton, as shown, for instance in the UK Department of Energy, "Digest of U.K. Energy Statistics, [16], 1974, p.130, Table 86.

Conversion of price per ton to Btu is done as follows:

$$\begin{aligned} 1 \text{ ton of fuel oil used by industry} &= 10,430,000 \text{ Kcal} \\ 1 \text{ Kcal} &= 3.97 \text{ Btu} \end{aligned}$$

Example:

$$\begin{aligned} 1970 \text{ Fuel Oil price} &= 9.30 \text{ £ per tonne} \\ \frac{9.30}{10.43 \times 3.97 \times 10^6} &= \frac{9.30}{41.41 \times 10^6} = 0.2246 \text{ £ per } 10^6 \text{ Btu} \end{aligned}$$

Liquid Fuels: Household Sector

This is the market price, taxes included, of "heating gas oil," sold in London, as of July in £ per ton, as shown [9], p.152.

Conversion of "Heating Gas Oil" prices from tonnes to Btu

1 ton heating gas oil = 11,030,000 Kcal

1 Kcal = 3.97 Btu

Example

1970 Heating Gas Oil price: 20.90 £ per ton

$$\frac{20.90}{11.03 \times 3.97 \times 10^3} = \frac{20.90}{43.8 \times 10^3} = 0.477 \text{ £ per } 10^6 \text{ Btu}$$

3.4.7 United States

Liquid Fuels: Industry and Energy Sectors

This represents the delivered price, including transportation, distribution and taxes, for residual fuel and distillate fuel, weighted according to their consumption by the industry sector.

Wholesale Prices, Residual Fuel Oil: The wholesale price for residual fuel oil, Okla.No.6, in dollars per barrel, for the period 1947-1972 is shown in the 1973 Supplement to the Survey of Current Business, [23] p.168. This can be updated with the "Wholesale price index for residual fuel oil" shown in the Survey of Current Business, [22] November 1975, Table S-36.

Distillate Fuel Oil: The wholesale price for "Distillate fuel oil, New York Harbor No. 2 Fuel" in Dollars per gallon is shown in the 1973 Supplement to the Survey of Current Business, [23] p.168. This can be updated with the "Wholesale price index for distillate fuel oil" shown in the Survey of Current Business, [22] November 1975, No. 11, Table S-36.

Delivery Charges: The charges for transportation, distribution and taxes are estimated on the basis of data compiled from the report to the Energy Policy Project of the Ford Foundation by Foster Associates, Inc. Energy Prices 1960-1973, [12] Appendix Tables, p.248 [No.6 Fuel Oil] and p.244 [No.2 Fuel Oil]. We estimated the charges as follows:

Delivery Charges

	Residual Fuel Oil \$ per BBl	Distillate Fuel Oil \$ per BBl
1950	0.40	0.63
1955	0.50	0.73
1960	0.65	0.83
1965	0.82	1.03
1970	1.00	1.20
1971	1.02	1.20
1972	1.02	1.20

Weighting of Residual and Distillate Fuel Oils is as follows:

The weighted average delivered price consists of Residual Fuel Oil (77%) and Distillate Fuel Oil (23%) for all years under consideration.

Conversion of price per Bbl into price per 10^6 Btu is done as follows:

Residual Fuel Oil #6:

1970 Wholesale Price = \$ 2.254 per Bbl
+ Distr. + Taxes = 1.000
\$ 3.254 per BBL

1 Bbl = 6 287 000 Btu
Delivered Price = \$ 0.518 per 10^6 Btu

Distillate Fuel Oil #2:

Wholesale Price = \$0.108 per gallon
= \$4,536 per Bbl
+ Transp. Distr. = 1.200
Taxes, Total
\$5.736 per BBL

1 Bbl = 5 825 Btu
Delivered Price = \$ 0.985 per 10^6 Btu

Weighted average price:

77% of 0.518 + 23% of 0.985 = \$ 0.6155 per 10^6 Btu

Liquid fuels: Household Sector

This represents the 1974 annual average retail price of Fuel Oil No. 2, as \$36.01 per 100 Gallons according to the U.S. Department of Labor: Retail Prices and Indexes of Fuels and Utilities, December 1974, [29] p.1. The 1974 price is extrapolated on the basis of the BLS Consumer Price Index for fuel oil No. 2; 1950 to 1974, given in the U.S. Department of Labor: Handbook of Labor Statistics 1975, Reference Edition, [28], table 128.

Conversion of the price per 100 Gallons into price per 10^6 Btu is as follows:

1 Barrel = 42 Gallons

Price of 1 Gallon x 42;

= \$ 0.1847 x 42;

= \$ 7.7574

1 Barrel = \$ 7.7574

1 Barrel = 5,825,000 Btu

$\frac{\text{Price of 1 Barrel}}{5.825} = \text{price per } 10^6 \text{ Btu}$

$\frac{7.7574}{5.825} = \$ 1.3317$

3.5 GASOLINE

3.5.1 Transportation Sector

All prices are for retail gasoline, paid at the pump [Prix à la pompe] taxes included. Diesel fuel is not included in the Western countries' price data. A weighted average price was computed for "high test" and "regular" except for the United States gasoline.

Prices were compiled from the publication of the Comité Professionnel du Pétrole, [5] Paris, 1974, p.301. This source gives gasoline prices, per 100 liters, for 1950 (January), 1960 (January), 1970 (January); and 1974 (April). The same price data, for the period 1960-1972, are also shown in the EUROSTAT Yearbook 1960-1971 [10b] p.211-213. Prices for the missing years, 1951-1959, were interpolated.

Conversion of Prices from liters to Btu is done as follows:

4.5461 liters = 1 Imperial U.K. gallon

1 Imperial Gallon = 0.1502×10^6 Btu

Price of 100 liters

$\frac{0.1501 \times 10^6 \times 100}{4.5461} = \text{Price per } 10^6 \text{ Btu}$

Price of 100 liters = Price per 10^6 Btu
 $0.0330 \times 10^6 \times 100$

Price of 100 liter x 0.3027 = Price per 10^6 Btu

3.5.2 Belgium - 1974 (April) prices

Anvers "Essence Normale" = 1,268 BF per 100 liters
Anvers "Supercarburant" = 1,326 BF per 100 liters
Weighted average = 1,297 BF per 100 liters
(1,297 x 0.3027) = 392.6 BF per 10⁶ Btu

3.5.3 Germany, Federal Republic (April 1974 prices)

Hamburg "Normalbenzin" = 82.90-89.90 D.Mark per 100 liter
"Superbenzin" = 89.90-97.70 D.Mark per 100 liter
Weighted average = 90.10 D.Mark per 100 liter
(90.10x0.3037) = 27.27 D.Mark per 10⁶ Btu

3.5.4 France - 1974 (April) Prices:

Paris/Marseille average = "Essence Normale" = 160.0
French Francs per 100 liters
"Supercarburant" = 175.0
French Francs per 100 liters
Weighted average = 167.0
French Francs per 100 liters
167 x 0.3027 = 50.55
French Francs per 10⁶ Btu

3.5.5 Italy - 1974 (April) prices

Prix unique "Benzina Auto Normale" = 24,700 Lira per
100 liter
"Benzina auto Super-
carborante" = 26,000 Lira per
100 liter
Weighted average = 25,350 Lira per
100 liter
(25,350x0.3027) = 7673 Lira per 10⁶ Btu

3.5.6 Netherlands 1974 (April) prices

Amsterdam "Normale Benzine", Price Zone 1 = 95.20 Fl per
100 liter

"Super Benzine", Price Zone 1 = 98.00 Fl per
100 liter

Weighted average, Price Zone 1 = 96.60 Fl per
100 liter

(96.60x0.3027) = 29.24 Fl per
10⁶ Btu

3.5.7 United Kingdom 1974 (April) prices

London "Regular" = 48.0 £ per Imperial Gallon

"Super" = 50.0 £ per Imperial Gallon

Weighted average = 49.0 £ per Imperial Gallon

[1 Imperial Gallon = 0.1502 x 10⁶ Btu]

$\frac{49.0}{0.1502} = 3.269 \text{ £ per } 10^6 \text{ Btu}$

3.5.8 United States

The gasoline price represents the retail price of regular grade, plus taxes. Prices per gallon of "Regular grade, excl.taxes, at service stations, average for 50-55 cities," for the period 1950-1972 are published in the 1973 Supplement to the Survey of Current Business [23] p.167. The 1973, 1974 and June 1975 prices are from the Survey of Current Business [22] November 1975 No.11, Table S-35.

The State and Federal taxes per gallon of regular gasoline, for the period 1950-1972 were taken from the American Petroleum Institute, Petroleum Facts and Figures 1971, [1] p.468, representing the data compiled under the authority of Texaco Inc. and Platt's Oilgram Price Service. State and Federal Taxes 1973 and 1974 are from Platt's Oil Price Handbook and Oilmanac 1974 [15]. The June 1975, State and Federal Taxes per gallon are estimated as 12 US cents.

Conversion of Gasoline Prices per Gallon to 10⁶ Btu is done as follows:

1 BBl = 42 Gallons

1970 Price per Gallon = \$ 0.3566

1970 Price per Barrel = \$ 0.3566 x 42 = \$14.98

1 BBl = 5 248 000 Btu

$\frac{1970 \text{ Price per BBl}}{5.248} = \text{price per } 10^6 \text{ Btu}$

$\frac{\$14.98 \text{ per Barrel}}{5.248} = \$ 2.854 \text{ per } 10^6 \text{ Btu}$

3.6 ELECTRICITY

All prices are in national currencies, per Kwh. Conversions to Btu were not made.

3.6.1 Belgium, Federal Republic of Germany, France, Italy, Netherlands

Industry and Transportation Sector

This is the average price, in national currency, tax included, per kWh, of high tension electricity, sold through public distribution.

Source: EUROSTAT, Yearbook 1960-1971 [10b] p.346, table 1C. Extrapolations were made on the basis of the price index for high tension electricity, see EUROSTAT yearbook 1969-1971 [10c].

Household Sector

This is the average price in national currency, per kWh, tax included of low tension electricity, sold through public distribution.

Source: EUROSTAT, Yearbook 1960-1971 [10b] p.346. Extrapolations were made on the basis of the price index for low tension electricity, see EUROSTAT Yearbook, 1969-1972 [10c].

3.6.2 United Kingdom

Industry and Transportation Sector

This is the price, in new pence, of electricity per kWh, used by industry.

See, for example, data 1963-1973 in U.K. Dept. of Energy: Digest of United Kingdom Energy Statistics 1974 [16] p.130, table 86. See also earlier issues of the U.K. Digest of Energy Statistics.

Household Sector

This is the average net selling value per kWh sold in Great Britain, through public supply, to the "domestic" sector (which excludes farms).

Source: See, for example, data 1963-1973 in U.K. Department of Energy: Digest of United Kingdom Energy Statistics 1974, [16] p.106, table 70, column 1. See also earlier issues of the U.K. Digest of Energy Statistics.

Note: Prices per Kwh in new pences, were converted to £ through division by 100.

Example: 1972 industry electricity = 0.740 pence =
0.00740 £/kWh
household electricity= 0.968 pence =
0.00968 £/kWh

3.6.3 United States

Energy Industry and Transportation Sector

This represents the national average charge per kWh at monthly consumption of 1,000 kW, 200 000 kWh, for industrial services in large cities. Data are from Federal Power Commission. Typical Electric Bills, 1974 [30], p.xxviii, Table 8.

Household Sector

This represents the national average charge per kWh at monthly consumption of 250 kWh for residential service in Cities of 2,500 population and more. Data are from Federal Power Commission. Typical Electric Bills, 1974 [30] p.xi, table 1.

4. MACRO-ECONOMIC DATA

4.1 POPULATION

For all countries except the United States, these are mid-year estimates, compiled from the United Nations Statistical Yearbook [18] and updated with the U.N. Monthly Bulletin of Statistics [17]. U.S. population data are from the Economic Report of the President, 1974, [20] p.250, Table C-2.

4.2 NATIONAL ACCOUNTS

For all countries, except the United States, the national accounts data, including gross domestic product at current and constant prices, and the implicit G.D.P. deflator, as well as the "capital goods price" (which is implicit in the series of gross fixed capital formation in current and constant prices) were taken from the U.N. Yearbook of National Accounts, 1972 which contains the data for the years 1960 to 1971. Most of these data were compiled according to the "New System of National Accounts". Data for 1950 to 1960 were linked to these series by means of index numbers of national income data, etc. published by the UN in earlier issues of the Yearbook of National Accounts [19].

Data were brought forward, 1971 to date, with the UN Monthly Bulletin of Statistics [17] or monthly Bulletins published by National Statistical Offices.

U.S. National Accounts data are from the Economic Report of the President, 1974 [20] p.249, Table C-1, and p.252, Table C-3. These data can be updated with the U.S. Dept. of Commerce: Survey of Current Business [22].

4.3 CONSUMER PRICE INDEX (C.P.I.)

This index is published in the UN Statistical Yearbook [18] and the UN Monthly Bulletin of Statistics [17]; it is for "all items". The U.S. C.P.I. is compiled from the Economic Report of the President 1974, [20], p.300 Table C-44. The index is for "all items".

4.4 WAGE RATES

For Belgium, France, Federal Republic of Germany, Italy and Netherlands this represents "hourly earnings, men and women" in manufacturing. The U.K. wage rates represent earnings of men in manufacturing. Data for the above countries were compiled from the U.N. Statistical Yearbook [18] and UN Monthly Bulletin of Statistics [17]. U.S. wage rates are adjusted hourly earnings in the private, non-agricultural sector, published in the Economic Report of the President 1974 [20], p.284, Table C-30.

4.5 WEATHER STATISTICS

The objective was to compile annual and first quarter deviations of "average" temperatures for the period 1953 to 1973; however, not all data were found to be available (in Vienna).

4.5.1 Belgium

The average temperature for the year relates to the period 1881-1930. Data for annual and first quarter deviations were compiled from the EUROSTAT (Energy) Yearbooks for 1950-1964, [10a], p.14/15; 1960-1971, [10b], p.18; and 1969-1972, [10c], p.22.

4.5.2 France

The average temperature for the year relates to the period 1881-1930, observed at Paris Montsouris. Data for annual and first quarter deviations were compiled from: EUROSTAT Energy Yearbooks for 1960-1971, [10b], p.9; and 1969-1972, [10c], p.13.

4.5.3 Federal Republic of Germany

The average temperature for the period 1881-1930, measured at Essen-Muhlheim, was: 907 Celsius for the year and 304 Celsius for the first quarter.

Data were compiled from EUROSTAT Energy Yearbook for 1950-1964, [10a], p.6/7; 1960-1971, [10b], p.6; and 1969-1972, [10c], p.10.

4.5.4 Italy

The average temperature (1881-1930) and the deviations relate to Northern Italy.

Data were compiled from EUROSTAT Energy Yearbooks 1950-1964, [10a], p.10/11; 1960-1971, [10b], p.12; 1969-1972, [10-c], p.16.

4.5.5 Netherlands

The average temperature for the year relates to the period 1881-1930.

Data were compiled from EUROSTAT Energy Yearbooks 1950-1964, [10a]; 1960-1971, [10b], p.15; 1969-1972, [10c] p.19.

4.5.6 United Kingdom

1963-1973 Weather statistics were compiled from EUROSTAT Energy Yearbook 1969-1972, [10b].

4.5.7 United States

Weather statistics relate to New Haven normal temperature for 1951-1960 (Annual = 10.5 "C", 1st quarter = 0.63 "C").

Data were compiled from: U.S. Dept. of Commerce, Weather Bureau World Weather Records, [25], Vol.I, p.392.

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Appendix: Tables

1. Final Energy Consumption, by Countries, Fuels and Sectors.
2. Energy Prices.
3. Macro-economic Data.

APPENDIX I

Final Energy Consumption

Table 1.1. Final energy consumption: Belgium.

YEAR	Solid Fuels					Gaseous Fuels				
	Energy	Industry	Transport	Domestic	Total Final	Energy	Industry	Transport	Domestic	Total Final
	10 ³ metric tonnes					10 ⁶ cubic meters				
1955	963	7,366	1,569	8,019	17,917	2,146	3,324	-	572	6,042
1956	936	7,358	1,422	8,399	18,115	2,315	3,562	-	587	6,464
1957	794	6,627	1,129	8,170	16,720	2,204	3,582	-	550	6,336
1958	711	5,175	992	6,522	13,400	2,008	3,652	-	585	6,245
1959	561	5,221	883	6,490	13,155	2,309	3,687	-	579	6,575
1960	544	5,716	816	6,580	13,656	2,534	4,036	-	613	7,233
1961	449	5,510	742	6,903	13,604	2,593	3,857	-	659	7,109
1962	454	5,670	639	7,800	14,563	2,325	4,069	-	786	7,180
1963	473	5,179	537	9,374	15,563	2,652	4,001	-	901	7,554
1964	336	5,427	337	6,944	13,044	2,593	4,165	-	972	7,730
1965	316	5,002	231	6,755	12,304	2,605	4,162	-	1,117	7,884
1966	280	5,255	117	6,102	11,754	2,331	3,965	-	1,225	7,521
1967	244	5,410	59	5,923	11,636	2,171	3,795	-	1,329	7,295
1968	204	6,023	55	6,184	12,466	2,335	5,358	-	1,517	9,210
1969	187	6,299	44	5,560	12,090	2,241	8,124	-	1,674	12,039
1970	160	5,719	44	5,209	11,132	2,150	8,920	-	2,078	13,148
1971	153	5,293	29	3,902	9,377	2,088	9,946	-	2,504	14,538
1972	146	5,526	22	3,728	9,422	1,987	12,228	-	3,163	17,380
1973	115 ^{a)}	6,077 ^{a)}	16 ^{a)}	3,399 ^{a)}	9,607 ^{a)}	2,138 ^{a)}	13,158 ^{a)}	-	3,840 ^{a)}	19,136 ^{a)}

a) Updated figures.

Table 1.1. (continued)

YEAR	Liquid Fuels					Electricity				
	Energy	Industry	Transport	Domestic	Total Final	Energy	Industry	Transport	Domestic	Total Final
	10 ³ metric tonnes					10 ⁶ kwh				
1955	-	1,287	1,419	749	3,455	3,652	2,329	449	1,774	8,204
1956	-	1,651	1,547	949	4,147	3,783	2,746	533	1,933	8,995
1957	-	1,516	1,629	964	4,109	3,967	2,819	610	2,070	9,466
1958	-	1,860	1,771	1,148	4,779	3,905	2,781	638	2,268	9,592
1959	-	2,049	1,862	1,258	5,169	3,753	3,481	627	2,425	10,286
1960	-	2,471	1,859	1,369	5,699	3,796	4,277	613	2,707	11,393
1961	-	2,606	1,996	1,552	6,154	3,876	4,406	625	3,010	11,917
1962	-	3,015	2,159	2,151	7,325	4,019	4,960	649	3,425	13,053
1963	-	3,233	2,258	2,420	7,911	4,290	5,499	687	3,757	14,233
1964	-	3,451	2,499	3,124	9,074	4,429	6,588	700	4,305	16,022
1965	-	4,317	2,790	3,674	10,781	4,528	7,206	703	4,702	17,139
1966	-	4,147	2,721	4,008	10,876	4,514	7,892	695	5,184	18,285
1967	-	4,610	3,038	4,437	12,085	4,458	8,707	690	5,640	19,495
1968	-	4,770	3,457	5,274	13,501	4,583	10,205	706	6,352	21,846
1969	-	5,042	3,606	5,804	14,452	4,717	11,621	707	7,051	24,096
1970	-	5,378	4,042	6,817	16,237	4,779	12,710	741	7,895	26,125
1971	-	4,962	4,198	6,832	15,992	4,970	13,330	770	8,727	27,797
1972	-	4,872	4,499	7,805	17,176	5,798	14,700	782	9,847	31,127
1973	-	4,847 ^{a)}	4,675 ^{a)}	8,051 ^{a)}	17,573 ^{a)}	-	-	-	-	-

^{a)} Updated figures.

Table 1.2. Final energy consumption: Federal Republic of Germany.

YEAR	Solid Fuels					Gaseous Fuels				
	Energy	Industry	Transport	Domestic	Total Final	Energy	Industry	Transport	Domestic	Total Final
	10 ³ metric tonnes					10 ⁶ cubic meters				
1955	25,373	44,905	11,817	42,858	124,953	14,573	25,202	-	3,884	43,659
1956	24,667	44,969	11,855	45,217	126,708	15,893	27,828	-	4,146	47,867
1957	23,075	43,288	11,007	45,425	122,795	16,719	28,392	-	4,133	49,244
1958	22,373	39,139	9,681	40,488	111,681	15,376	25,962	-	4,235	45,573
1959	20,239	38,945	8,607	36,374	104,165	14,178	26,329	-	4,244	44,751
1960	19,640	40,768	7,886	38,675	106,969	15,059	29,622	-	4,295	48,976
1961	18,229	37,827	7,275	37,580	100,911	14,849	28,183	-	4,287	47,319
1962	17,339	35,979	6,925	41,798	102,041	14,005	26,710	-	4,655	45,370
1963	17,649	34,352	6,572	46,683	105,256	13,750	24,993	-	5,080	43,823
1964	16,271	33,866	5,435	39,658	95,230	14,535	27,989	-	5,393	47,917
1965	13,778	32,012	3,973	35,444	85,207	12,929	28,842	-	5,935	47,706
1966	12,705	29,075	3,249	32,087	77,116	11,761	27,156	-	6,814	45,731
1967	10,716	30,643	2,874	29,478	73,711	10,703	30,192	-	7,074	47,969
1968	9,584	30,823	2,358	28,667	71,432	11,512	31,384	-	9,241	52,137
1969	9,193	35,727	1,889	28,400	75,209	11,105	38,286	-	9,889	59,280
1970	7,037	32,106	1,735	25,689	66,567	11,188	43,227	-	11,218	65,633
1971	6,012	28,748	1,458	19,581	55,799	10,832	45,481	-	12,800	69,113
1972	5,338	27,710	1,153	17,265	51,466	10,311	47,538	-	17,326	75,175
1973	4,010 ^{a)}	31,063 ^{a)}	948 ^{a)}	15,473 ^{a)}	51,494 ^{a)}	11,531 ^{a)}	52,989 ^{a)}	-	20,223 ^{a)}	84,743 ^{a)}

a) Updated figures.

Table 1.2. (continued)

YEAR	Liquid Fuels					Electricity				
	Energy	Industry	Transport	Domestic	Total Final	Energy	Industry	Transport	Domestic	Total Final
	10 ³ metric tonnes					10 ⁶ kwh				
1955	721	987	5,309	1,343	8,860	19,229	44,375	2,669	15,404	81,677
1956	815	1,798	6,034	2,247	10,894	21,101	48,396	2,847	17,721	90,605
1957	860	2,067	6,493	2,932	12,352	22,107	52,751	2,973	19,437	97,268
1958	1,040	3,087	7,552	4,270	15,949	23,256	54,489	3,197	21,602	102,544
1959	1,472	3,926	8,575	5,419	19,392	25,169	58,640	3,559	23,839	111,207
1960	1,800	5,771	9,725	7,024	24,320	26,674	65,727	3,859	26,933	123,193
1961	2,125	7,289	11,286	9,411	30,111	28,382	69,111	3,988	30,175	131,656
1962	2,449	9,425	12,598	13,214	37,686	30,797	72,055	4,424	34,192	141,468
1963	3,096	11,383	13,752	16,245	44,476	33,113	76,437	4,891	38,463	152,904
1964	3,896	13,116	15,524	18,043	50,579	35,070	83,103	5,272	41,951	165,396
1965	4,461	14,809	16,885	21,553	57,708	35,806	88,609	5,629	46,537	176,581
1966	4,795	15,753	18,700	24,326	63,574	35,468	93,319	5,691	51,345	185,823
1967	5,223	15,790	19,390	25,471	65,874	36,272	90,497	5,868	59,282	191,919
1968	6,149	16,282	20,734	29,194	72,359	38,204	99,055	6,370	66,718	210,347
1969	6,954	16,714	23,045	35,493	82,206	42,190	107,997	7,345	74,632	232,164
1970	7,711	18,987	25,678	40,469	92,845	44,035	115,263	7,928	83,129	250,355
1971	7,707	18,617	28,235	42,343	96,902	45,720	118,480	8,191	93,814	266,205
1972	7,893	20,708	29,447	44,183	102,231	46,071	125,051	8,603	106,900	286,625
1973	-	-	-	-	-	47,846	137,012	8,874	115,554	309,286

Table 1.3. Final energy consumption: France.

YEAR	Solid Fuels					Gaseous Fuels				
	Energy	Industry	Transport	Domestic	Total Final	Energy	Industry	Transport	Domestic	Total Final
	10 ³ metric tonnes					10 ⁶ cubic meters				
1955	2,801	20,934	5,214	18,897	47,846	4,075	7,913	86	2,446	14,520
1956	2,714	22,482	5,211	21,931	52,338	4,617	8,412	89	2,685	15,803
1957	2,733	22,108	4,993	22,666	52,500	4,670	9,123	182	2,751	16,726
1958	2,796	21,118	4,454	19,402	47,770	4,398	9,791	163	2,925	17,277
1959	2,628	20,419	3,742	18,199	44,988	4,692	10,344	160	2,959	18,155
1960	2,371	21,248	3,405	18,172	45,196	5,246	12,432	149	3,195	21,022
1961	1,878	20,926	3,034	18,061	43,899	5,255	13,621	137	3,384	22,397
1962	1,929	20,701	2,778	20,167	45,575	4,916	15,095	127	3,846	23,984
1963	1,895	20,384	2,749	23,723	48,751	4,863	15,228	118	4,438	24,647
1964	1,753	20,366	2,473	19,974	44,566	5,101	16,719	110	4,769	26,699
1965	1,645	19,176	1,878	17,825	40,524	5,067	16,969	100	5,151	27,287
1966	1,446	17,430	1,484	15,453	35,813	4,971	16,685	88	5,363	27,107
1967	1,580	16,789	1,020	14,744	34,133	4,906	16,619	76	5,889	27,490
1968	1,516	16,839	663	14,423	33,441	4,884	16,819	77	6,708	28,488
1969	1,547	16,949	613	13,110	32,219	5,725	17,398	57	7,312	30,492
1970	1,464	16,335	399	12,243	30,441	6,253	18,397	49	8,507	33,206
1971	1,321	13,652	185	10,123	25,281	6,119	19,359	43	9,964	35,485
1972	1,128	12,757	113	8,605	22,603	5,556	20,326	37	12,144	38,063
1973	952 ^{a)}	13,825 ^{a)}	103 ^{a)}	8,701 ^{a)}	23,581 ^{a)}	5,990 ^{a)}	22,130 ^{a)}	28 ^{a)}	14,255 ^{a)}	42,403 ^{a)}

a) Updated figures.

Table 1.4. Final energy consumption: Italy.

YEAR	Solid Fuels					Gaseous Fuels				
	Energy	Industry	Transport	Domestic	Total Final	Energy	Industry	Transport	Domestic	Total Final
	10 ³ metric tonnes					10 ⁶ cubic meters				
1955	356	4,809	1,524	2,582	9,271	1,033	6,441	433	1,353	9,260
1956	306	4,821	1,582	2,836	9,545	1,150	7,899	471	1,504	11,024
1957	284	4,775	890	2,555	8,504	1,291	8,989	501	1,651	12,432
1958	267	3,924	1,165	2,324	7,680	1,106	9,805	508	1,849	13,268
1959	256	3,602	1,037	2,346	7,241	1,104	11,147	495	1,994	14,740
1960	260	3,606	976	3,171	8,013	1,261	12,277	465	2,327	16,330
1961	234	3,690	856	3,128	7,908	1,299	13,127	392	2,529	17,347
1962	218	3,906	745	3,344	8,213	1,407	13,253	330	3,051	18,041
1963	210	4,227	761	3,694	8,892	1,461	13,494	283	3,434	18,672
1964	124	3,490	593	3,307	7,514	1,819	13,541	254	3,597	19,211
1965	73	4,258	544	3,070	7,945	2,074	14,103	243	3,895	20,315
1966	55	4,312	454	2,869	7,690	2,025	15,182	227	3,782	21,216
1967	58	4,427	412	3,107	8,004	1,844	16,568	230	4,258	22,900
1968	47	4,575	262	2,393	7,277	1,689	18,571	193	4,722	25,175
1969	72	4,539	237	2,372	7,220	2,234	21,324	195	5,092	28,845
1970	59	4,941	261	1,831	7,092	2,729	22,651	185	5,871	31,436
1971	51	4,667	320	1,187	6,225	2,695	23,031	250	7,589	33,565
1972	62	4,797	200	970	6,069	3,250	25,610	288	8,803	37,951
1973	55 ^{a)}	5,125 ^{a)}	190 ^{a)}	853 ^{a)}	6,223 ^{a)}	3,374 ^{a)}	27,300 ^{a)}	300 ^{a)}	10,604 ^{a)}	-

^{a)} Updated figures.

Table 1.4. (continued)

YEAR	Liquid Fuels					Electricity				
	Energy	Industry	Transport	Domestic	Total Final	Energy	Industry	Transport	Domestic	Total Final
	10 ³ metric tonnes					10 ⁶ kwh				
1955	855	2,300	2,749	2,207	8,111	6,766	21,745	2,528	7,101	38,140
1956	935	2,791	3,039	2,490	9,255	7,014	23,051	2,668	8,061	40,794
1957	936	3,078	3,330	2,583	9,927	7,394	24,327	2,741	8,724	43,186
1958	997	3,400	3,976	2,990	11,363	7,932	25,265	2,769	9,663	45,629
1959	1,085	4,086	4,332	3,443	12,946	8,075	27,980	2,964	10,520	49,539
1960	1,233	5,805	5,246	3,922	16,206	9,243	31,935	3,197	11,737	56,112
1961	1,381	6,206	6,184	4,173	17,944	10,242	34,059	3,279	13,153	60,733
1962	1,699	7,894	7,141	4,809	21,543	10,705	36,940	3,467	15,016	66,128
1963	2,001	9,394	8,354	5,564	25,313	11,694	40,588	3,533	16,829	72,644
1964	2,626	9,815	9,345	6,261	28,047	11,763	43,463	3,357	19,157	77,740
1965	2,908	10,569	10,036	7,615	31,128	12,043	46,306	3,346	21,604	83,299
1966	3,442	11,783	10,815	8,485	34,525	13,354	40,795	3,324	23,362	90,835
1967	3,876	11,034	11,695	10,884	37,489	14,823	56,479	3,365	24,071	98,738
1968	4,128	11,827	12,899	12,589	41,443	15,756	60,042	3,430	26,899	106,127
1969	4,332	12,898	13,819	14,918	45,967	16,509	63,242	3,514	29,662	112,927
1970	4,482	19,949	15,814	18,088	58,333	17,785	67,381	3,639	32,583	121,388
1971	4,150	17,539	16,393	20,318	58,400	19,025	68,225	3,682	35,589	126,521
1972	3,500	21,421	17,153	22,322	64,396	20,670	72,286	3,755	38,750	135,461
1973	-	-	-	-	-	22,706 ^{a)}	77,290 ^{a)}	3,850 ^{a)}	42,551 ^{a)}	146,397 ^{a)}

a) Updated figures.

Table 1.5. Final energy consumption: The Netherlands.

YEAR	Solid Fuels					Gaseous Fuels				
	Energy	Industry	Transport	Domestic	Total Final	Energy	Industry	Transport	Domestic	Total Final
	10 ³ metric tonnes					10 ⁶ cubic meters				
1955	1,334	2,521	380	6,408	10,643	1,115	1,434	-	1,119	3,668
1956	1,221	2,564	285	6,842	10,912	1,283	1,473	-	1,206	3,962
1957	1,183	2,427	273	6,009	9,892	1,272	1,456	-	1,209	3,937
1958	1,177	2,168	79	5,866	9,290	1,306	1,551	-	1,282	4,139
1959	1,081	2,212	71	5,323	8,687	1,382	1,612	-	1,310	4,304
1960	1,025	2,257	70	5,452	8,804	1,507	1,876	-	1,385	4,768
1961	932	1,780	59	5,329	8,100	1,645	2,004	-	1,452	5,101
1962	869	1,836	47	6,173	8,925	1,691	2,086	-	1,588	5,365
1963	984	1,717	40	7,201	9,942	1,803	2,132	-	1,708	5,643
1964	853	1,474	36	5,810	8,173	1,479	2,810	-	1,793	6,082
1965	796	1,271	36	4,813	6,916	1,765	3,288	-	2,447	7,500
1966	648	1,099	16	3,926	5,689	1,725	4,273	-	3,337	9,335
1967	349	1,280	5	2,780	4,414	1,726	5,903	-	5,251	12,880
1968	281	1,376	3	2,382	4,042	1,656	8,842	-	8,206	18,704
1969	232	1,717	5	2,323	4,277	1,502	10,488	-	12,915	24,905
1970	146	1,682	10	1,690	3,528	1,954	13,504	-	15,860	31,318
1971	90	1,773	10	896	2,769	2,397	16,521	-	19,721	38,639
1972	55	1,772	10	679	2,516	2,394	20,673	-	26,769	49,836
1973	29 ^{a)}	1,849 ^{a)}	5 ^{a)}	526 ^{a)}	2,409 ^{a)}	3,210 ^{a)}	22,474 ^{a)}	-	29,498 ^{a)}	55,182 ^{a)}

^{a)} Updated figures.

Table 1.5. (continued)

YEAR	Liquid Fuels					Electricity				
	Energy	Industry	Transport	Domestic	Total Final	Energy	Industry	Transport	Domestic	Total Final
	10 ³ metric tonnes					10 ⁶ kWh				
1955	-	1,411	1,530	803	3,744	2,398	4,599	614	3,744	11,355
1956	-	1,760	1,788	1,037	4,585	2,642	4,888	660	4,230	12,420
1957	-	1,922	1,907	1,036	4,865	2,792	5,299	698	4,497	13,286
1958	-	2,149	2,078	1,312	5,539	2,905	5,582	720	4,838	14,045
1959	-	2,363	2,296	1,531	6,190	3,081	6,135	702	5,128	15,046
1960	-	2,778	2,543	1,854	7,175	3,320	6,784	731	5,799	16,634
1961	-	3,098	2,737	2,208	8,043	3,561	6,995	755	6,356	17,667
1962	-	3,520	3,023	2,869	9,412	3,811	7,458	735	7,231	19,235
1963	-	3,962	3,298	3,551	10,811	3,966	8,223	738	8,104	21,031
1964	-	4,279	3,607	4,066	11,952	4,237	9,040	734	8,982	22,993
1965	-	4,680	3,891	4,859	13,430	4,521	9,785	743	9,995	25,044
1966	-	4,623	4,157	5,180	13,960	4,835	10,842	751	11,134	27,562
1967	-	4,618	4,544	5,265	14,427	4,908	12,104	741	11,972	29,725
1968	-	4,445	4,867	6,107	15,419	5,141	14,507	770	12,927	33,345
1969	-	4,357	5,248	6,231	15,836	5,327	16,317	819	14,323	36,786
1970	-	3,961	5,803	7,040	16,804	5,654	17,973	917	15,973	40,517
1971	-	2,758	6,140	6,595	15,493	6,096	19,448	951	17,327	43,822
1972	-	2,914	6,585	6,744	16,243	6,637	21,494	922	19,038	48,091
1973	-	2,582 ^{a)}	6,951 ^{a)}	6,493 ^{a)}	16,026 ^{a)}	-	-	-	-	-

a) Updated figures.

Table 1.6. Final energy consumption: United Kingdom.

YEAR	Solid Fuels					Gaseous Fuels				
	Energy	Industry	Transport	Domestic	Total Final	Energy	Industry	Transport	Domestic	Total Final
	10 ³ metric tonnes					10 ⁶ cubic meters				
1955	20,448	47,973	13,280	65,183	146,884	7,882	14,198	-	11,295	33,375
1956	19,887	46,850	13,175	63,940	143,852	8,372	14,860	-	11,253	34,485
1957	18,849	44,717	12,440	60,487	136,493	8,556	15,542	-	10,940	35,038
1958	18,476	39,946	11,414	60,595	130,431	7,658	14,059	-	10,989	32,706
1959	16,110	37,367	10,328	55,571	119,376	7,108	13,490	-	10,497	31,095
1960	16,133	38,640	9,457	57,356	121,586	8,013	15,691	-	10,644	34,348
1961	15,033	36,518	8,229	54,038	113,818	7,420	15,243	-	10,614	33,277
1962	14,708	34,073	6,591	55,551	110,923	6,947	14,069	-	11,424	32,440
1963	14,504	32,503	5,403	55,236	107,646	7,049	13,504	-	12,366	32,919
1964	13,008	31,466	3,949	50,272	98,695	7,900	15,150	-	12,780	35,830
1965	12,668	30,577	2,570	49,543	95,358	8,222	15,744	-	14,514	38,480
1966	11,420	28,276	1,500	42,494	83,690	7,636	14,677	-	16,326	38,639
1967	9,896	31,162	920	36,920	78,898	7,730	14,081	-	17,982	39,793
1968	7,519	32,272	370	35,716	75,887	8,582	15,384	-	20,382	44,348
1969	3,896	32,583	319	32,644	69,442	10,456	12,888	-	23,514	46,858
1970	3,077	29,779	298	30,430	63,584	11,212	16,828	-	25,974	54,014
1971	2,043	25,116	223	27,405	54,778	11,298	21,372	-	28,777	61,807
1972	1,809	19,589	178	24,395	45,971	8,590	33,236	-	33,031	74,857
1973	1,629 ^{a)}	21,119 ^{a)}	91 ^{a)}	21,431 ^{a)}	44,270 ^{a)}	8,557 ^{a)}	37,422 ^{a)}	-	40,150 ^{a)}	86,129 ^{a)}

a) Updated figures.

Table 1.7. Final energy consumption: United States.

YEAR	Solid Fuels					Gaseous Fuels				
	Energy	Industry	Transport	Domestic	Total Final	Energy	Industry	Transport	Domestic	Total Final
	10 ³ metric tonnes					10 ⁶ cubic meters				
1955	13,381	99,136	14,452	65,358	192,327	161,840	222,900	-	180,810	565,550
1956	13,495	101,367	11,537	61,349	187,748	159,500	235,080	-	198,110	592,690
1957	13,194	96,244	7,948	46,827	164,213	163,700	248,290	-	210,680	622,670
1958	11,974	83,943	3,683	45,432	145,032	170,480	229,780	-	229,280	629,540
1959	13,671	76,197	2,624	38,697	131,297	179,610	246,200	-	247,130	672,940
1960	12,741	80,554	2,131	38,558	133,984	186,420	266,230	-	260,550	713,200
1961	12,249	77,940	1,797	34,984	126,970	188,440	267,420	-	273,180	729,040
1962	12,357	78,240	1,440	34,388	126,425	198,920	276,280	-	295,470	770,670
1963	13,440	82,483	1,300	29,706	126,929	204,060	295,120	-	305,150	804,330
1964	13,055	86,723	1,198	25,595	126,571	201,910	326,040	-	320,850	848,800
1965	12,214	90,225	1,126	24,101	127,666	198,620	355,910	-	333,800	888,330
1966	17,573	87,457	1,143	23,991	130,164	201,320	387,560	-	359,180	948,060
1967	18,822	79,098	1,040	20,676	119,636	205,520	406,360	-	375,820	987,700
1968	19,896	77,501	885	18,696	116,978	216,315	433,815	-	389,320	1,039,450
1969	24,784	69,492	750	15,801	110,827	229,480	464,670	-	416,330	1,110,480
1970	4,692 ^{b)}	85,964	682	15,083	106,421	233,160	474,400	-	451,990	1,159,550
1971	3,652 ^{b)}	81,383	490	14,222	99,747	246,705	477,865	-	453,930	1,178,500
1972	3,594 ^{b)}	93,209	190	12,660	109,653	245,090	539,290	-	459,160	1,243,540
1973	3,410 ^{a)}	96,663 ^{a)}	150 ^{a)}	11,527 ^{a)}	111,750 ^{a)}	248,560 ^{a)}	566,330 ^{a)}	-	466,530 ^{a)}	-

a) Updated figures.

b) Letter of inquiry was sent to OECD for explanation of sudden drop in HC mine consumption (march 1975).

APPENDIX II

Energy Prices

Table 2.1. Belgium: energy prices in Belgian francs.

YEAR	Industry and Transport (Except Gasoline)				Transport Gasoline	Household			
	Solid Fuels	Gas	Liquid, Except Gasoline	Electricity		Solid Fuels	Gas	Liquid Fuels	Electricity
	Per 10 ⁶ Btu			Per kwh	Per 10 ⁶ Btu	Per 10 ⁶ Btu			Per kwh
1955	31.486	43.850	-	-	200.850	54.067	96.977	-	-
1956	32.710	52.210	-	-	208.480	55.911	96.977	-	-
1957	38.179	54.820	-	-	216.110	62.669	96.977	-	-
1958	37.064	62.910	26.103	0.828	223.740	74.085	96.977	45.698	2.500
1959	32.890	52.210	25.059	0.876	231.370	72.303	96.977	50.578	2.640
1960	32.890	52.210	22.709	0.900	239.000	70.361	96.977	52.396	2.750
1961	31.450	49.330	25.842	0.850	239.600	69.845	96.977	53.576	2.650
1962	31.450	47.510	25.059	0.840	234.000	74.158	96.977	51.389	2.530
1963	31.198	47.510	25.059	0.860	234.000	75.158	96.977	52.200	2.480
1964	31.198	47.510	21.143	0.860	238.800	84.026	96.977	47.432	2.490
1965	31.198	52.730	22.448	0.880	234.300	85.537	96.977	50.406	2.520
1966	31.450	58.210	22.971	0.890	271.500	85.512	96.977	47.881	2.560
1967	31.810	46.200	26.364	0.900	257.700	83.153	99.508	59.449	2.620
1968	31.810	43.490	23.884	0.880	266.400	85.316	109.069	53.969	2.600
1969	31.810	40.960	20.009	0.830	267.300	92.627	110.592	51.167	2.550
1970	31.810	39.470	32.368	0.850	268.200	102.961	114.107	50.946	2.510
1971	42.403	41.480	34.456	1.040	283.800	137.300	119.907	62.251	2.660
1972	52.487	42.150	25.059	0.960	287.700	140.000	123.446	54.977	2.540
1973	52.487	-	28.322	-	315.900	-	-	80.634	-
1974	-	-	43.722	-	392.600	-	-	95.970	-

Table 2.2. Federal Republic of Germany: energy prices in Deutsch marks.

YEAR	Industry and Transport (Except Gasoline)				Transport Gasoline	Household			
	Solid Fuels	Gas	Liquid, Except Gasoline	Electricity		Solid Fuels	Gas	Liquid Fuels	Electricity
	Per 10 ⁶ Btu			Per kwh	Per 10 ⁶ Btu	Per 10 ⁶ Btu			Per kwh
1955	2.369	7.030	-	0.0683	19.355	3.481	6.894	-	0.150
1956	2.436	7.030	3.164	0.0688	19.388	3.481	6.894	4.710	0.150
1957	2.577	7.360	3.419	0.0718	19.421	3.741	6.894	5.515	0.150
1958	2.743	7.190	2.669	0.0739	19.454	4.406	9.285	3.955	0.150
1959	2.761	7.800	2.614	0.0733	19.487	4.406	9.285	3.879	0.158
1960	2.634	8.180	2.476	0.0730	19.520	4.332	7.748	3.451	0.159
1961	2.634	6.760	2.502	0.0736	19.220	4.370	7.748	3.325	0.158
1962	2.675	7.030	2.571	0.0729	18.160	4.295	6.529	3.728	0.158
1963	2.675	7.210	2.597	0.0732	18.160	4.665	6.529	3.602	0.158
1964	2.751	7.090	2.139	0.0728	18.160	4.887	6.529	2.023	0.158
1965	2.839	6.980	2.035	0.0752	18.160	5.038	6.529	3.023	0.159
1966	2.857	7.010	2.182	0.0758	17.100	5.000	6.630	2.544	0.161
1967	2.875	6.970	2.442	0.0758	17.100	5.000	6.630	3.778	0.162
1968	3.052	6.340	2.069	0.0798	17.830	5.184	6.587	3.426	0.176
1969	3.052	6.130	2.035	0.0754	17.130	5.703	6.574	2.846	0.177
1970	3.732	5.780	2.390	0.0757	17.680	7.222	6.544	3.174	0.178
1971	5.561	5.870	3.403	0.0777	18.280	7.850	7.199	3.829	0.182
1972	6.860	6.290	2.566	0.0819	18.590	8.378	8.239	3.098	0.198
1973	7.166	6.390	2.518	0.0852	19.650	9.042	-	6.020	0.209
1974	-	-	-	-	27.270	-	-	-	-

Table 2.3. France: energy prices in French francs.

YEAR	Industry and Transport (Except Gasoline)				Transport Gasoline	Household			
	Solid Fuels	Gas	Liquid, Except Gasoline	Electricity		Solid Fuels	Gas	Liquid Fuels	Electricity
	Per 10 ⁶ Btu			Per kwh	Per 10 ⁶ Btu	Per 10 ⁶ Btu			Per kwh
1955	2.31	8.283	2.568	0.0469	22.70	5.40	11.03	4.531	0.1600
1956	2.34	8.283	2.632	0.0467	24.26	5.49	11.03	4.647	0.1620
1957	2.70	8.283	2.986	0.0489	25.83	5.78	11.03	5.366	0.1670
1958	2.88	8.237	3.242	0.0563	27.39	5.67	13.06	5.062	0.1920
1959	3.27	9.633	3.425	0.0596	28.95	7.74	14.46	5.721	0.2030
1960	3.24	9.499	3.236	0.0612	30.51	7.58	14.46	5.240	0.2111
1961	3.27	7.882	3.164	0.0600	30.36	7.77	14.34	5.420	0.2126
1962	3.29	7.841	3.030	0.0607	30.36	7.87	14.16	5.319	0.2022
1963	3.51	7.611	2.945	0.0633	30.36	8.39	14.04	5.403	0.2029
1964	3.51	7.691	2.862	0.0651	30.21	8.76	13.18	5.086	0.2113
1965	3.55	7.537	2.710	0.0660	29.60	8.72	12.64	4.657	0.2073
1966	3.58	7.327	2.609	0.0667	29.60	8.99	12.76	4.456	0.2146
1967	3.52	7.327	2.377	0.0696	29.60	8.98	12.17	4.965	0.2199
1968	3.54	7.222	2.351	0.0750	30.21	8.73	11.40	5.262	0.2238
1969	3.76	7.109	2.067	0.0789	32.63	9.74	10.59	5.632	0.2291
1970	4.73	6.860	3.152	0.0804	33.24	10.68	10.51	6.324	0.2376
1971	5.94	6.483	4.624	0.0866	33.72	14.25	11.10	8.678	0.2457
1972	6.06	6.244	3.382	0.0911	34.96	14.50	11.99	7.292	0.2481
1973	6.26	-	3.676	-	35.11	-	-	8.350	-
1974	-	-	4.624	-	50.55	-	-	10.751	-

Table 2.4. Italy: energy prices in lira.

YEAR	Industry and Transport (Except Gasoline)				Transport Gasoline	Household			
	Solid Fuels	Gas	Liquid, Except Gasoline	Electricity		Solid Fuels	Gas	Liquid Fuels	Electricity
	Per 10 ⁶ Btu			Per kwh	Per 10 ⁶ Btu	Per 10 ⁶ Btu			Per kwh
1955	-	406.2	-	-	3716.0	-	1342.0	-	-
1956	-	400.3	-	-	3759.0	-	1691.0	-	-
1957	-	404.6	530.2	-	3803.0	-	1665.0	629.6	-
1958	-	298.8	366.9	-	3847.0	-	1652.0	539.5	-
1959	-	312.7	381.8	-	3891.0	-	1617.0	497.5	-
1960	543.3	274.8	371.1	9.00	3935.0	550.4	1461.0	270.4	24.70
1961	534.8	260.2	318.1	8.82	3270.0	536.6	1457.0	466.7	24.90
1962	550.0	297.1	371.1	8.92	3058.0	597.1	1452.0	501.2	23.70
1963	524.8	288.1	355.8	9.78	3057.0	614.2	1448.0	506.2	23.75
1964	581.8	332.2	323.4	9.55	3057.0	681.0	1466.0	493.8	23.65
1965	591.5	332.2	298.3	9.70	3481.0	752.9	1463.0	479.0	22.98
1966	591.5	359.9	357.9	9.65	3481.0	758.6	1463.0	488.9	23.29
1967	602.6	359.9	403.0	9.78	3784.0	712.9	1593.0	512.3	23.33
1968	602.6	359.9	357.9	9.81	3784.0	712.9	1576.0	483.9	23.09
1969	602.6	359.9	342.0	9.81	3784.0	712.9	1570.0	481.5	21.72
1970	712.0	359.9	375.1	9.78	4086.0	842.0	1554.0	488.9	21.52
1971	954.0	359.9	429.5	9.91	4752.0	1129.0	1531.0	545.7	22.68
1972	916.0	459.1	376.5	9.88	4752.0	1083.0	1510.0	508.6	22.25
1973	882.0	-	433.5	-	4752.0	1043.0	-	663.7	-
1974	-	-	699.9	-	7673.0	-	-	998.3	-

Table 2.5. Netherlands: energy prices in florins.

YEAR	Industry and Transport (Except Gasoline)				Transport Gasoline	Household			
	Solid Fuels	Gas	Liquid, Except Gasoline	Electricity		Solid Fuels	Gas	Liquid Fuels	Electricity
	Per 10 ⁶ Btu			Per kwh	Per 10 ⁶ Btu	Per 10 ⁶ Btu			Per kwh
1955	2.20	3.73	1.806	0.0528	11.680	2.868	3.07	3.401	0.0960
1956	2.28	3.73	2.168	0.0535	12.192	2.961	3.07	3.495	0.0972
1957	2.34	3.71	2.890	0.0574	12.704	3.306	3.07	4.058	0.0972
1958	2.37	3.71	2.116	0.0587	13.216	3.468	3.07	3.260	0.1068
1959	2.35	3.71	1.755	0.0594	13.728	3.237	3.07	3.026	0.1080
1960	2.39	3.68	1.394	0.0603	14.240	3.075	3.07	3.627	0.1095
1961	2.46	3.61	1.394	0.0572	14.360	3.075	3.07	2.533	0.1055
1962	2.40	3.56	1.523	0.0559	14.270	3.144	3.07	2.514	0.1013
1963	2.60	3.53	1.574	0.0551	14.440	3.536	3.07	2.703	0.0981
1964	2.97	3.25	1.497	0.0538	14.410	4.545	3.07	2.351	0.0962
1965	3.16	3.04	1.368	0.0524	15.630	4.501	3.07	1.929	0.0952
1966	3.25	2.44	1.600	0.0529	16.570	4.545	3.07	2.395	0.0945
1967	3.36	2.42	1.703	0.0536	17.780	4.638	3.07	2.938	0.0943
1968	3.45	2.17	1.548	0.0510	17.970	4.776	3.11	3.037	0.0937
1969	3.78	1.99	1.497	0.0450	17.650	5.096	3.19	2.667	0.0890
1970	4.69	2.14	2.116	0.0466	19.280	5.671	3.19	3.333	0.0889
1971	5.69	2.14	2.489	0.0488	19.490	6.860	3.29	3.802	0.0928
1972	5.46	2.14	1.812	0.0506	21.450	6.580	3.29	3.331	0.0950
1973	-	-	2.013	-	22.160	-	-	5.289	-
1974	-	-	2.426	-	29.240	-	-	8.130	-

Table 2.6. United Kingdom: energy prices in pounds sterling.

YEAR	Industry and Transport (Except Gasoline)				Transport Gasoline	Household			
	Solid Fuels	Gas	Liquid, Except Gasoline	Electricity		Solid Fuels	Gas	Liquid Fuels	Electricity
	Per 10 ⁶ Btu			Per kwh	Per 10 ⁶ Btu	Per 10 ⁶ Btu			Per kwh
1955	0.146	0.537	0.217	0.00493	1.386	-	0.821	0.491	0.00628
1956	0.168	0.585	0.263	0.00525	1.753	0.453	0.910	0.506	0.00638
1957	0.179	0.614	0.273	0.00545	1.453	0.481	0.587	0.587	0.00648
1958	0.189	0.642	0.230	0.00556	1.486	0.509	1.022	0.471	0.00658
1959	0.189	0.638	0.210	0.00532	1.520	0.537	1.038	0.438	0.00668
1960	0.193	0.644	0.200	0.00523	1.553	0.565	1.075	0.380	0.00678
1961	0.200	0.655	0.184	0.00551	1.547	0.593	1.118	0.443	0.00697
1962	0.207	0.669	0.205	0.00562	1.632	0.611	1.120	0.443	0.00716
1963	0.207	0.668	0.193	0.00572	1.625	0.623	1.121	0.455	0.00734
1964	0.207	0.669	0.181	0.00569	1.786	0.635	1.098	0.455	0.00753
1965	0.207	0.661	0.169	0.00595	1.786	0.642	1.065	0.443	0.00772
1966	0.211	0.668	0.179	0.00616	1.886	0.711	1.062	0.443	0.00795
1967	0.204	0.664	0.208	0.00631	1.880	0.717	1.029	0.497	0.00788
1968	0.196	0.667	0.227	0.00644	1.992	0.745	1.093	0.497	0.00887
1969	0.200	0.585	0.225	0.00644	2.046	0.814	1.070	0.489	0.00857
1970	0.239	0.452	0.225	0.00654	2.107	0.918	1.058	0.477	0.00838
1971	0.286	0.327	0.336	0.00721	2.192	1.014	1.108	0.586	0.00901
1972	0.307	0.296	0.332	0.00737	2.225	1.118	1.115	0.604	0.00956
1973	0.321	0.309	0.297	0.00740	2.285	1.163	-	0.650	0.00968
1974	0.443	-	0.308	-	3.269	-	-	0.932	-

Table 2.7 United States: Energy Prices in U.S. Dollars (Revised)

Year	Industry				Trans- port	Households			
	Coal	Gas	Oil	Electri- city	Gas- oline	Coal	Gas	Oil	Electri- city
	Per 10 ⁶ Btu			Per kwh	Per 10 ⁶ Btu			Per kwh	
1950	0.2559	0.2097	0.4013	0.0151	2.142	0.8439	0.624	0.8878	0.0279
1951	0.2661	0.2183	0.4407	0.0151	2.171	0.8620	0.621	0.9350	0.0278
1952	0.2712	0.2283	0.3803	0.0152	2.202	0.8650	0.632	0.9581	0.0279
1953	0.2834	0.2433	0.3695	0.0158	2.305	0.8765	0.652	1.0082	0.0283
1954	0.3002	0.2480	0.3958	0.0158	2.318	0.8448	0.665	1.0142	0.0284
1955	0.3046	0.2653	0.4605	0.0158	2.334	0.8337	0.691	1.0484	0.0287
1956	0.3242	0.2755	0.5189	0.0160	2.397	0.9097	0.702	1.0996	0.0288
1957	0.3434	0.2841	0.5465	0.0162	2.476	0.9886	0.714	1.1557	0.0287
1958	0.3469	0.3015	0.4293	0.0164	2.425	0.9775	0.756	1.0897	0.0292
1959	0.3497	0.3136	0.4773	0.0164	2.441	0.9745	0.782	1.1045	0.0294
1960	0.3509	0.3319	0.4774	0.0165	2.491	0.9684	0.834	1.0848	0.0298
1961	0.3493	0.3464	0.4671	0.0167	2.458	0.9583	0.845	1.1287	0.0298
1962	0.3489	0.3522	0.4673	0.0168	2.454	0.9491	0.844	1.1300	0.0299
1963	0.3383	0.3505	0.4714	0.0172	2.433	0.9502	0.845	1.1531	0.0299
1964	0.3391	0.3466	0.4601	0.0171	2.430	0.9502	0.848	1.1276	0.0297
1965	0.3418	0.3495	0.5149	0.0171	2.500	0.9461	0.850	1.1507	0.0295
1966	0.3497	0.3510	0.5038	0.0170	2.569	0.9674	0.855	1.1811	0.0294
1967	0.3536	0.3509	0.5001	0.0171	2.657	1.0130	0.854	1.2190	0.0295
1968	0.3815	0.3522	0.5026	0.0171	2.702	1.0504	0.862	1.2580	0.0295
1969	0.3874	0.3588	0.5151	0.0172	2.791	1.1406	0.877	1.2847	0.0296
1970	0.4729	0.3769*	0.6155	0.0175	2.854	1.5225	0.926	1.3317	0.0300
1971	0.5553	0.4128	0.6547	0.0189	2.912	1.8417	0.992	1.4163	0.0314
1972	0.5710	0.4540	0.6542	0.0207	2.872	1.9632	1.044	1.4213	0.0334
1973	0.6817*	0.5014	0.7472	0.0220	3.107	2.2094	1.092	1.6396	0.0347
1974	0.9823*	0.6757	1.4979	0.0260	4.192	3.3672	1.224	2.5964	0.0379
June 1975	1.1115*	0.9734	1.5528		4.576*	3.9092		2.8108*	

*Preliminary

APPENDIX III

Macro Economic Data

Table 3.1. Belgium.

YEAR	G.D.P.		C.P.I. 1963 = 100	Popula- tion in Millions	Ex- change Rate: (US\$1 = ...BF)	Wage Rates: Manufacturing Hourly Earn- ings (M & F) BF	Capital Goods Price Index: 1963 = 100	Weather	
	Constant 1963 Price	Current						Temperature Deviations	
	(Billion BF)							Year °C	First Quarter °C
1950	-	-	-	8.64	-	-	-		
1951	477.4*	396.7*	-	8.68	-	-	73.3*		
1952	481.7*	405.9*	-	8.73	50.33	-	78.4*		
1953	495.3*	407.8*	87	8.78	49.87	24.01*	78.3*	+0.6°	
1954	514.3*	427.3*	89	8.82	50.00	24.47*	75.8*	+0.1°	
1955	530.3*	449.0*	88	8.87	49.96	25.25*	78.5*	0°	
1956	549.5*	482.7*	91	8.92	50.22	26.72*	82.1*	-0.6°	
1957	562.1*	514.3*	93	8.99	50.02	28.44*	88.6*	+1.2°	
1958	551.2*	511.2*	94	9.05	49.84	28.94*	88.4*	+0.4°	
1959	571.5*	532.5*	95	9.10	49.94	30.07*	88.5*	+1.5°	
1960	597.1	564.0	96	9.15	49.70	30.98*	90.1	+0.8°	
1961	627.5	600.2	97	9.18	49.78	32.14*	91.5	+1.2°	
1962	660.9	642.7	98	9.22	49.75	34.09*	95.2	-0.6°	-3.8°
1963	691.1	691.1	100	9.29	49.83	36.80*	100.0	-0.6°	-3.8°
1964	739.0	773.4	104	9.38	49.63	40.73*	106.8	+0.4°	-0.7°
1965	765.8	842.1	105	9.46	49.64	44.51*	111.5	-0.1°	-0.3°
1966	788.5	950.9 ^R	113	9.53	50.05	48.32*	115.0	+0.5°	+0.7°
1967	819.3	970.6	116	9.58	49.63	51.36	120.3	+0.8°	+1.6°
1968	853.3	1,036.9	119	9.62	50.14	54.22	123.3	+0.1°	-0.1°
1969	914.1	1,151.8	124	9.65	49.67	59.54	128.5	+0.5°	-0.3°
1970	970.2	1,283.1	129	9.66	49.68	66.16	140.9	+0.4°	-0.9°
1971	1,005.7	1,406.9	134	9.67	44.76	75.14	154.2	+0.8°	-0.1°
1972	1,058.2*	1,566.0	142	9.71	44.06	85.80	163.4 [†]	+0.1°	+1.0°
1973	-	-	152*	9.76	41.32	100.37*	-		
1974	-	-	-	-	-	-	-		

*Means linked.

†Means linked, C.P.I. trend.

^RMeans revised.

Table 3.2. Federal Republic of Germany

YEAR	G.D.P.		C.P.I. 1963 = 100	Popula- tion in Millions	Ex- change Rate: (US\$1 = ...DM)	Wage Rates: Manufacturing Hourly Earn- ings (M & F) DM	Capital Goods Price Index: 1962 = 100	Weather	
	Constant 1962 Price	Current						Temperature Deviations Year C°	First Quarter C°
	(Billion DM)								
1950	152.4*	104.2*	91.2	50.173	-	1.27	-		
1951	167.9*	362.8*	82.5	50.528	-	1.42	72.5*		
1952	183.3*	414.1*	84.2	50.859	4.200	1.53	77.7*		
1953	198.4*	156.8*	82.5	51.350	4.200	1.59	75.9*	+0.4°	
1954	213.1	168.4*	82.5	51.880	4.200	1.63	75.2*	-0.5°	
1955	238.7*	192.6*	84.2	52.382	4.215	1.73	77.8*	-0.7°	
1956	256.2*	212.9*	86.3	53.008	4.199	1.90	80.4*	-1.6°	
1957	270.7*	232.0*	88.1	53.656	4.202	2.09	83.1*	+0.3°	
1958	280.7*	248.8*	90.0	54.292	4.178	2.23	84.6*	-0.3°	
1959	301.2*	269.8*	90.9	54.876	4.170	2.36	86.4*	+1.1°	
1960	328.4	302.3	92.1	55.433	4.171	2.62	89.8	+0.1°	
1961	346.2	332.6	94.3	56.175	3.996	2.90	94.6	+0.6°	
1962	360.1	360.1	97.1	56.837	3.998	3.23	100.0	-1.5°	
1963	372.5	384.0	100.0	57.389	3.975	3.46	103.1	-1.4°	-4.4°
1964	397.3	420.9	102.3	57.971	3.977	3.74	105.7	-0.1°	-1.1°
1965	419.5	460.4	105.8	58.619	4.006	4.12	108.8	-0.9°	-0.8°
1966	431.7	490.7	109.5	59.148	3.977	4.42	111.4	+0.2°	+0.1°
1967	430.8	495.5	111.1	59.286	3.999	4.60	110.2	+0.5°	+2.0°
1968	462.3	540.0	113.1	59.500	4.000	4.79	111.3	-0.2°	+0.1°
1969	500.4	605.2	116.1	60.067	3.690 ^A	5.28	116.3	-0.2°	-0.8°
1970	529.4	685.6	120.5	60.651	3.648	5.96	129.2	-0.5°	-1.3°
1971	543.9 ^P	760.1 ^P	126.9	61.302	3.231	6.66	138.7	+0.4°	0°
1972	560.4 ^P	829.7 ^P	133.9	61.672	3.202	7.24	144.4	-0.4°	+1.3°
1973	590.1 ^P	926.2 ^P	143.2	61.973 ^P	2.703	8.03	151.1		
1974	-	-	-	-	-	-	-		

* Means linked (to current territory).

^P Means Preliminary

^A Means revised October 1969.

Table 3.3. France.

YEAR	G.D.P.		C.P.I. 1963 = 100	Popula- tion in Millions	Ex- change Rate: (US\$1 = ...FF)	Wage Rates: Manufacturing Hourly Earn- ings (M & F) FF	Capital Goods Price Index: 1963 = 100	Weather	
	Constant 1963 Price	Current (Former SNA)						Temperature Deviations Paris	
	(Billion FF)							Year C ^o	First Quarter C ^o
1950	-	105.6 ^E	-	41.74	-	.81	-		
1951	239.1 [*]	127.6 ^E	-	42.06	-	1.04	56.39 [*]		
1952	245.1 [*]	143.7 ^E	-	42.36	3,500	1.21	67.16 [*]		
1953	253.5 [*]	157.3 ^E	69	42.65	3,499	1.24	66.60 [*]	+0.3 ^o	
1954	265.1 [*]	166.4 ^E	69 [*]	43.06	3,500	1.32	67.44 [*]	-0.4 ^o	
1955	281.1 [*]	179.7 ^E	70 [*]	43.43	3,500	1.42	68.58 [*]	-0.1 ^o	
1956	294.9 [*]	198.4 ^E	71 [*]	43.84	3,499	1.52	71.57 [*]	-1.0 ^o	
1957	312.3 [*]	222.0 ^E	73	44.31	4,199	1.64	76.58 [*]	+0.3 ^o	
1958	318.0 [*]	252.5 ^E	84	44.79	4,905	1.84	88.05 [*]	0 ^o	
1959	325.7 [*]	274.0 ^E	89	45.24	4,909	1.95	86.56 [*]	+1.3 ^o	
1960	346.1	301.4	92	45.68	4,903	2.09	88.40	+0.3 ^o	
1961	364.1	328.2	95	46.16	4,900	2.25	91.20	+1.4 ^o	
1962	389.0	366.7	95	47.00	4,900	2.44	94.40	-0.8 ^o	
1963	411.4	411.4	100	47.82	4,902	2.65	100.00	-1.2 ^o	-3.7 ^o
1964	438.5	456.0	103	48.31	4,900	2.84	104.10	+0.1 ^o	-0.7 ^o
1965	458.8	489.0	106	48.76	4,902	3.00	107.10	-0.4 ^o	-0.5 ^o
1966	484.5	531.7	109	49.16	4,952	3.18	109.20	+0.4 ^o	+0.6 ^o
1967	508.5	573.8	112	49.55	4,908	3.37	112.00	+0.3 ^o	+1.3 ^o
1968	533.9	629.3	117	49.91	4,948	3.79	115.20	-0.2 ^o	+0.3 ^o
1969	575.3	733.3	124	50.32	5,558 ^A	4.21	121.70	+0.2 ^o	+0.2 ^o
1970	608.8	819.2	131	50.77	5,520	4.66	129.70	+0.5 ^o	-0.5 ^o
1971	639.6	903.7	138	51.25	5,224	5.18	136.20	+0.6 ^o	-0.1 ^o
1972	669.7 ^{†P}	1,007.9 ^{†P}	147	51.70	5,125	5.81	145.10 [†]	-0.1 ^o	+1.5 ^o
1973	-	-	157 [*]	52.13	4,708	7.05	-		
1974	-	-	-	-	-	-	-		

* Means linked.

† Means linked, C.P.I. trend.

^P Means preliminary

^A Means August 10, 1969

^E Means estimated.

Table 3.4. Italy.

YEAR	G.D.P.		C.P.I. 1963 = 100	Popula- tions in Millions	Ex- change Rate: (US\$1 = ...L)	Wage Rates: Manufacturing Hourly Earn- ings (M & F) L	Capital Goods Price Index: 1960 = 100	Weather Temperature Deviations North Italy	
	Constant 1963 Price	Current						Year C	First Quarter C
	(Billion L)								
1950	-	9 590*	-	46.77	-	-	91.3*		
1951	15 393*	11 004*	-	47.09	-	-	93.1*		
1952	15 830*	11 667*	-	47.35	624.92	-	92.4*		
1953	17 032*	12 772*	75	47.60	624.84	169	92.4*	-0.8°	
1954	17 894*	13 633*	78	47.90	624.90	175	92.8*	-0.6°	
1955	19 327*	15 102*	80	48.20	624.85	185	94.3*	-0.2°	
1956	20 120*	16 270*	82	48.47	624.97	198	97.2*	-1.3°	
1957	21 345*	17 460*	83	48.74	624.89	207	99.7*	-0.1°	
1958	22 285*	18 682*	86	49.04	624.00	216	99.7*	-0.1°	
1959	23 964*	19 946*	85	49.36	620.60	221	98.5*	+0.2°	
1960	25 677	21 751	87	49.64	620.60	232	100.0*	-0.3°	
1961	27 810	24 198	89	49.90	620.60	248	102.6*	+0.5°	
1962	29 542	27 195	93	50.24	620.60	286	107.0*	-1.1°	
1963	31 140	31 140	100	50.64	622.38	334	115.1*	-0.7°	-2.6°
1964	32 021	34 029	106	51.12	624.80	371	123.6*	0°	-1.0°
1965	33 148	36 610	111	51.58	624.70	386	126.2*	-0.7°	-0.5°
1966	35 066	39 558	113	51.97	624.45	401	128.0*	+0.6°	+0.7°
1967	37 482	43 555	117	52.35	623.86	426	130.8*	+0.6°	+1.3°
1968	39 843	46 979	119	52.75	623.50	445	133.7*	+0.5°	+1.8°
1969	42 082	51 700	122	53.17	625.50	489	142.2*	+0.1°	+0.2°
1970	44 199	57 903	128	53.67	623.20	606	157.8*	+0.3°	+0.8°
1971	44 846	62 596	134	54.01	594.00	703	160.3*	+0.4°	+0.4°
1972	48 476*	68 336*	142	54.35	582.50	789	164.4*	+0.2°	+2.6°
1973	48 573*	80 117*	157*	54.89	607.92	1,012 ^A	200.7*		
1974	-	-	-	-	-	-	-		

* Means linked

^A Means third quarter 1973.

Figure 3.5. Netherlands.

	G.D.P.		C.P.I. 1963 = 100	Popula- tions in Millions	Ex- change Rate: (US\$1 = ...L) Guilders	Wage Rates: Manufacturing Hourly Earn- ings (M & F) (Guilders)	Capital Goods Price Index: 1963 = 100	Weather	
	Constant 1963 Price	Current						Year C°	First Quarter C°
	Million Guilders								
1950	-	18 811	-	10.11	-	-			
1951	29 935*	21 475	-	10.26	-	-	66*		
1952	30 462*	22 416	-	10.38	3.800	-	73*		
1953	35 713*	23 849	75*	10.49	3.786	1.02	71*	+0.3°	
1954	37 733*	26 738	79*	10.62	3.794	1.19	72*	-0.4°	
1955	39 391*	29 340	80*	10.75	3.829	1.23	75*	-0.6°	
1956	40 662*	31 860	81*	10.89	3.830	1.35	83*	-1.3°	
1957	40 290*	34 730	87*	11.02	3.791	1.49	90*	+0.5°	
1958	42 259*	35 446	89*	11.19	3.775	1.49	92*	-0.1°	
1959	46 129*	37 827	90*	11.35	3.770	1.55	91*	+0.7°	
1960	47 090	42 354	91*	11.48	3.770	1.77	92	+0.3°	
1961	48 470	44 692	93*	11.64	3.600	2.02	94	+0.2°	
1962	50 550	48 133	96	11.80	3.600	2.21	96	-1.3°	
1963	52 231	52 231	100	11.97	3.600	2.37	100	-1.6°	-4.2°
1964	56 890	61 463	106	12.13	3.592	2.72	106	-0.3°	-0.6°
1965	60 080	68 710	111	12.29	3.611	2.98	111	-0.6°	+0.1°
1966	61 820	74 936	117	12.45	3.614	3.28	116	0°	+0.4°
1967	65 210	82 302	121	12.60	3.596	3.53	119	-0.5°	+2.1°
1968	69 830	91 213	126	12.72	3.606	3.83	121	-0.3°	+0.3°
1969	74 750	103 359	135	12.87	3.624	4.23	128	0°	-1.4°
1970	79 490	115 740	141	13.02	3.597	4.82	138	-0.1°	-1.3°
1971	83 090	130 430	152	13.19	3.254	5.53	152	-0.1°	+0.2°
1972	84 071 ^{†*}	148 761*	164	13.33	3.226	5.87	164 ^{†*}	-0.5°	+0.5°
1973	91 535 ^{†*}	167 348*	177*	13.44	2.824	6.71*			
1974	-	-	-	-	-	-	-		

* Means linked.

[†] Means deflated by trend of C.P.I.

Figure 3.6. United Kingdom.

YEAR	G.D.P.		C.P.I. 1963 = 100	Popula- tions in Millions	Ex- change Rate: (US\$1 = ...£)	Wage Rates: Manufacturing Hourly Earn- ings (M & F) Pence	Capital Goods Price Index: 1963 = 100	Weather	
	Constant 1963 Price	Current						Year C ^o	First Quarter C ^o
	(Million £)								
1950		13 334*	61.1	-	-	-	-		
1951	21 892*	14 685*	67.1	50.3	-	16.5*	71.2*		
1952	21 881*	16 044*	73.1	50.4	.3559	18.1*	77.5*		
1953	22 685*	17 048*	75.4	50.6	.3558	20.5	79.3*		
1954	23 659*	18 069*	76.9	50.8	.3591	22.5*	79.3*		
1955	24 464*	19 304*	79.9	50.9	.3567	24.5*	82.9*		
1956	25 173*	20 891*	83.8	51.2	.3591	26.5*	87.4*		
1957	25 599*	21 999*	86.9	51.4	.3560	29.6*	90.1*		
1958	25 694*	22 939*	89.5	51.7	.3569	30.3*	92.8*		
1959	26 629*	24 107*	90.0	52.0	.3572	31.1*	92.8*		
1960	27 828	25 403	90.9	52.4	.3567	33.1*	93.0		
1961	28 575	27 108	94.0	52.8	.3562	34.5*	95.1		
1962	28 968	28 400	98.0	53.3	.3569	35.6*	97.9		
1963	30 151	30 151	100.0	53.5	.3576	37.0	100.0	-1.0 ^o	-3.0 ^o
1964	31 850	32 803	103.3	53.8	.3585	39.8	102.4	+0 ^o	-0.1 ^o
1965	32 561	35 183	108.2	54.2	.3568	43.8	106.1	-0.5 ^o	-0.1 ^o
1966	33 259	37 510	112.4	54.5	.3584	46.2	110.0	-0.1 ^o	+0.8 ^o
1967	33 998	39 512	115.2	54.7	.4155 ^A	48.3	112.0	+0.2 ^o	+1.4 ^o
1968	35 179	42 441	120.6	55.0	.4194	51.6	115.0	-0.1 ^o	+0.2 ^o
1969	35 812	45 385	127.2	55.3	.4166	55.9	121.0	-0.2 ^o	-0.8 ^o
1970	36 602	49 961	135.3	55.4	.4178	64.4	130.0	+0.1 ^o	-0.7 ^o
1971	37 114*	55 648	148.0	55.6	.3918 ^B	72.0	141.0	+0.3 ^o	+0.6 ^o
1972	38 103*	61 185	159.0	55.8	.4259	82.1	155.7*	-0.3 ^o	+0.7 ^o
1973	40 226*	70 400*	173.7*	55.9	.4304	92.9	180.2*	-0.1 ^o	+0.9 ^o
1974	39 969*	-	-	-	-	-	-		+1.5 ^o

* Means linked.

^A Means November 18, 1967.

^B Means December 23, 1971.

Figure 3.7. United States.

YEAR	G.N.P.		C.P.I. 1967 = 100	Popula- tion in Millions	Wage Rates		Capital Goods Price Index: 1958 = 100 (Price Defla- ter, Gross Private, fixed investment) 1958=100	Weather	
	Constant 1958 Price	Current			Adjusted hourly Earnings, Private Non-Agri- cultural Index 1967 = 100	Average Gross hourly Earnings, Non-Agri- cultural Index		Temperature Deviations New Haven Year First Quarter C° C°	
	(Billion \$)								(current \$)
1950	355.3	284.8	72.1	151.7	50.0	1.34	77.5		
1951	383.4	328.4	77.8	154.3	53.7	1.45	83.1	+0.3	+1.0
1952	395.1	345.5	79.5	157.0	56.4	1.52	85.3	+0.5	+0.7
1953	412.8	364.6	80.1	159.6	59.6	1.61	86.6	+0.8	+1.7
1954	407.0	364.8	80.5	162.4	61.7	1.65	86.8	-0.1	+0.4
1955	438.0	398.0	80.2	165.9	63.7	1.71	89.0	-0.1	-0.4
1956	446.1	419.2	81.4	168.9	67.0	1.80	94.0	-0.7	-0.5
1957	452.5	441.1	84.3	172.0	70.3	1.89	98.5	+0.2	-0.6
1958	447.3	447.3	86.6	174.9	73.2	1.95	100.0	-1.1	-1.0
1959	475.9	483.7	87.3	177.8	75.8	2.02	102.6	+0.2	-1.2
1960	487.7	503.7	88.7	180.7	78.4	2.09	103.4	-0.3	+0.4
1961	497.2	520.1	89.6	183.7	80.8	2.14	103.9		
1962	529.8	560.3	90.6	186.5	83.5	2.22	104.9		
1963	551.0	590.5	91.7	189.2	85.9	2.28	106.0		
1964	581.1	632.4	92.9	191.9	88.6	2.36	107.6		
1965	617.8	684.9	94.5	194.3	91.9	2.45	109.3		
1966	658.1	749.9	97.2	196.6	95.6	2.56	111.8		
1967	675.2	793.9	100.0	198.7	100.0	2.68	115.9		
1968	706.6	864.2	104.2	200.7	106.6	2.85	120.4		
1969	725.6	930.3	109.8	202.7	113.6	3.04	126.4		
1970	722.5	977.1	116.3	204.9	121.2	3.22	132.5		
1971	745.4	1,055.5	121.3	207.0	129.7	3.43	140.1		
1972	790.7	1,155.2	125.3	208.8	137.9	3.65	145.7		
1973	837.3 ^P	1,288.2 ^P	133.1	210.4	146.5 ^P	3.89 ^P	153.3 ^P		
1974	-	-	-	-	-	-	-		

^P Means Preliminary.