Economic Time Series for Irish Industry and Services

John Bradley, John D Fitz Gerald and Ide Kearney

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THE ECONOMIC & SOCIAL RESEARCH INSTITUTE

4 Burlington Road   Dublin 4   Ireland

Telephone: (353-1) 667 1525   Fax: (353-1) 668 6231

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1 Introduction

The purpose of this paper is to describe certain new economic time series which have been constructed in the course of updating the HERMES-IRELAND model. The updating of the model involved *inter alia* the disaggregation of the industrial and services sectors. Data at this new disaggregated level is not available in Ireland from a single source. Therefore this disaggregation exercise involved the collection of a considerable amount of new data from a variety of sources.

The sources and methodology used to construct these new data are described in this paper. In the construction of the new data set, an overriding imperative was to maintain simplicity since the data set constructed has to be maintained and updated on a regular basis.

The paper is organised as follows. Section 2 defines the disaggregated industrial and services sectors. Section 3 describes the data sources and methodology used in constructing the time series. Section 4 outlines the mnemonic system used to identify the different variables. Sections 5-12 then describe each set of economic variables derived in turn, each of these sections includes the computer macro used to generate the variables. The appendices 1-3 give a complete listing of all the economic series input and derived in the course of this exercise.

2 Definition of Sectors

In the original version of HERMES-Ireland, four production branches were treated: aggregate industry, agriculture, marketed services and non-marketed services.[1] For the current disaggregation exercise the aggregate industry branch is divided into five industrial sectors - utilities, hi-tech, traditional, food, and building, the marketed services branch is divided into three sectors - distribution, transport & communication, and professional & financial services, and the non-marketed services branch is divided into two sectors - public administration & defence, and health & education services. The definition of these sectors is described in Section 2.1 and 2.2 below.

2.1 The Five Industrial Sectors

Table 2.1 below shows the classification of industrial statistics which has been used by the Central Statistics Office (CSO) since 1973.

Table 2.1: Classification of industrial establishments by major industrial sector.

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[1] See Bradley et al *HERMES-IRELAND A Model of the Irish Economy: Structure and Performance* (1989)

NACE Code	Industrial Sector
11,21,23	Mining, quarrying and turf
13,16,17	Electricity, gas and water
24	Manufacture of non-metallic mineral products
25-26	Chemicals (including man-made fibres)
22,31-37	Metals and engineering
411-423	Food
424-429	Drink and Tobacco
43	Textiles
44-45	Clothing, footwear and leather
46	Timber and wooden furniture
47	Paper and paper products, printing and publishing
14,48-49	Miscellaneous industries
NACE 1-4 less 13,16,17	Transportable Goods Industries
NACE 1-4 less 11,13,16,17,21,23	Manufacturing Industries

SOURCE: Census of Industrial Production, CSO.

Industry as defined above is divided into four sectors which correspond to the above NACE classifications as follows:

Industrial Sector	NACE Code
Utilities	13,16,17
High-Technology	25-26 / 22,31-37
Food	411-423
Traditional	residual categories (i.e. 11,21,23 / 24 / 424-429 / 43 / 44-45 / 46 / 47 / 14,48-49)

The disaggregation of transportable goods industries (which will be referred to hearafter as manufacturing industries for convenience) into the above three sectors corresponds approximately to the "modern" and "traditional" breakdown of manufacturing industry of Baker (1985,1988). The food sector has been separately identified because, while it forms part of the traditional sector, it is closely tied to the supply of raw materials from the agricultural sector.

Table 2.1 details that portion of industrial activity covered by the Census of Industrial Production. In addition to this, a fifth industrial sector - the **Building** sector - was defined in compiling the time series data for industry.

2.2 The Five Services Sectors.

The services data were disaggregated into five sectors as detailed in the following list.

Sector	Description[2]
Marketed Services:	
Distribution	Wholesale and retail trade
Transport & Communication	Transport, storage and communication. (including An Post.)
Professional & Financial Services	Professional services, finance and insurance, personal services (private domestic service, hotels, restaurants, lodging and boarding houses, hairdressing, undertaking etc.),entertainment and sport (including Radio Telefis Eireann) etc.
Non-marketed Services:	
Public Administration & Defence	Central government and local authorities including the administrative departments and offices of government, the army and gardai and diplomatic and consular officials abroad. (excluding An Post)
Health and Educational Services	

3 Data Sources and Methodology

Data on the major economic variables - investment, output, wages, employment - on a National Accounts basis are required for each of the disaggregated sectors described in Section 2 above in the new disaggregated HERMES-IRELAND model. In addition, the production block for the new model specifies a four factor demand system, this in turn requires data on material inputs and energy consumption for the industrial sectors which have not been previously compiled. There is no single source which provides consistent time-series data of this kind in Ireland, hence a number of sources other than the Irish National Accounts (*NIE*) - which is the reference framework for the construction of the HERMES-IRELAND data - were used.

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2 These classifications are based as closely as possible on National Accounts definitions which in turn are based on ESA (European System of Accounts - NACE/CLIO Code) definitions.

3.1 *National Income and Expenditure.*

The *NIE* accounts form the basic framework for data used in HERMES-IRELAND. The data in the *NIE* accounts are available in computerised format in the ESRI - Department of Finance Databank. Where more disaggregated data were required at a sectoral level, the *NIE* provided the control totals at an aggregate level. In using the sources as listed below to acquire the more detailed data required for the new model, the objective was to generate series consistent with *NIE* definitions. Where this was not possible, the second-best solution was to generate an internally consistent set of data from an alternative source and to link these via an additive or multiplicative fixing factor to the *NIE* totals.

3.2 *The Census of Industrial Production.*

Most of the data on the individual industrial sectors were taken from the *Census of Industrial Production (CIP)*. This includes data on employment, gross output, intermediate material inputs, energy inputs, wages and salaries, and industrial production which are all available from the *CIP* at the level of detail outlined in Table 2.1 above. In 1973 the *CIP* changed from the ISIC system of classification to the NACE system. The exact correspondence between the old ISIC system and the new NACE system has never been published. This is quite a serious problem since in many cases a discontinuity occured in 1973 even at the two-digit NACE code level. In order to construct consistent time-series data from 1970 onwards, a computer macro (LINKSER3) was used to link the two series. This macro scales all of the old data by the ratio of the value of the new series to the old series in the overlap year (1973). The *CIP* covers approximately 90% of total industrial establishments in Ireland and, therefore, (there are also some definitional differences) does not have an exact correspondence with *NIE* aggregates.

3.3 *The OECD National Accounts*

These are available from 1970 onwards and give data on investment at a more disaggregated level than that available in *NIE*. Investment data on both the industrial and services sectors were sourced here. Volume data for earlier years had to be rebased, the macro LINKSER3 described above was used for this purpose.

3.4 *The European System of Accounts*

The *ESA* provide national accounts data at a more disaggregated level than that available in *NIE*. Value-added and wage-bill data at a more disaggregated level than that available in *NIE* were sourced here.

3.5 *CSO*

The CSO provided value-added data, both in current and constant prices, and wage bill data for the marketed services sectors, the utilities sector, the building sector and the manufacturing sector.

3.6 *Employment Data*

The *Labour Force Survey (LFS)* has been conducted on an annual basis since 1983. Prior to that date it was conducted every second year since its inception in 1975 except in Census years (1979 and 1981). Hence employment data from this source had to be supplemented by *The Trend of Employment and Unemployment* (CSO) which provides estimates of employment figures for earlier years. Data from the Census of Population in various years was also used where necessary to provide more disaggregated data. Industrial employment data was taken from the *CIP*. The Department of Finance provided estimates of employment in Health and Education and Sexton (1982) provides labour force estimates by sector over the period 1961-1980.

3.7 *Energy Data*

The *OECD Energy Balances* and the *OECD Energy Statistics* present data by fuel type on production and consumption of energy by sector. Data are given in physical quantities only and no price information is included. All these data are converted to TOE's using conversion factors from the Department of Energy[3]. Value data on the consumption of energy by industrial sector are available in the *CIP*. Data on energy prices were sourced in Scott.(1990)

ESB Consumption Data - These data give consumption of electricity by Economic Activity Code (EAC) from 1974 onwards. The data are computerised but have not been used in constructing the energy data used in the model.

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3 *Energy in Ireland.* Department of Energy

3.8 Other Sources

The 1975 *Input-Output Tables* were used to weight certain variables e.g. the weighted final demand variables. The *OECD Economic Outlook* and *OECD Economic Indicators* were used to source data on exchange rates, prices and production in other countries. Most of these data are available in computerised format in the ESRl-Department of Finance databank.

3.9 Methodology

The economic time-series described in this paper were compiled in a two-stage process. The Irish National Accounts are available in computerised form, along with some other statistics for more recent years. However much of the data required for the disaggregation exercise were not available in computerised format. The first stage involved the computerisation of a substantial amount of data from a variety of sources which for convenience were split into two categories:

Input Series: All data other than energy data, e.g. labour force data, industrial production indices, investment data, etc.

- Energy Series: All the energy data.

Appendices 1 and 2 give a complete listing of all of these variables and their sources.

The second stage of the process involved compiling a series of computer macros which take the Input Series and Energy Series as input and perform the transformations and mathematical operations necessary to generate from these the economic time-series required by the model. Appendix 3 gives a complete listing of all of these variables - the Output Series.

4 Model Mnemonics

This section describes the mnemonics devised for the model variables. The first three sub-sections describe the three separate parts which constitute a variable mnemonic. The mnemonics used for the energy-specific data are described in the final sub-section since these latter are constructed using a slightly different mnemonic system.

4.1 The economic variable

The first one or two letters define the **economic variable**, e.g. investment (I), employment (L), wage bill (YW), etc. The following is a list of the mnemonics used to identify the economic variable being defined.

FDW	Final Demand Weighted
I	Investment
K	Capital Stock
L	Employment
M	Imports
O	Value-added
OPR	Labour Productivity
P	Deflator, e.g. PI is deflator for investment, PM is deflator for imports
Q	Industrial Production Volume Index
QE	Energy Inputs
QG	Gross Output
QM	Materials Inputs (includes QE)
QN	Net Output (QG-QM)
QR	Rest of Inputs (QM-QE)
QW	Weighted Output Variable
UCL	Unit Labour Costs
W	Wage Rate
X	Exports
Y	Income
YC	Income from profits (Y-YW)
YW	Wage bill

4.2 The Sector

The second set of letters (usually two to four) define the relevant **sector**, e.g. food (F), distribution (DI), etc. The following is a list of the memonics used to identify the different sectors. It is divided into two parts for simplicity; the first part lists the mnemonics for those sectors which are actually used in the HERMES model, the second part lists the sectoral notation of the background data used to generate the model variables.

AG	Agriculture, Forestry and Fishing
A	Agriculture
AFF	Forestry and Fishing
I	Industry
IB	Building and Construction
IU	Utilities
IMT	Manufacturing
IMH	Hi-Tech
IMF	Food
IMD	Traditional
S	Services

SM	Marketed Services
SMDI	Distribution
SMTC	Transport & Communication
SMPF	Professional & Financial Services
SMG	Government Market Services (only for investment series)
SMGR	Roads
SMGW	Water Supply and Sewerage
SN	Non-Market Services
SNHE	Health and Education
SNP	Public Administration & Defence

The following is used in an alternative breakdown of total investment:

B	Building and Construction
H	Housing
BC	Other Building and Construction
ME	Machinery and Equipment

GOVERNMENT:

BG	Building and Construction
HG	Housing
BCG	Other Building and Construction
MEG	Machinery and Equipment

PRIVATE:

BP	Building and Construction
HP	Housing
BCP	Other Building and Construction
MEP	Machinery and Equipment

Mnemonics for background sectors used to generate model sectors

AFOR	Forestry
AFISH	Fishing
IMCH	Chemicals
IMMM	Metals and Engineering
IMDT	Drink and Tobacco
IMCL	Textiles, Clothing and Footwear
IMTX	Textiles
IMCF	Clothing and Footwear
IMWD	Wood and Furniture
IMPP	Paper and Printing
IMGL	Glass and Ceramics
IMOT	Other Manufacturing
IREF	Oil Refineries
IMMQ	Mining and Quarrying
IMFD	Food, Drink and Tobacco

IMFBF	Food: Bacon Factories. (pre-1973 *CIP*)
IMFDY	Food: Dairy Porducts. (pre-1973 *CIP*)
IMFMT	Food: Meat other than Bacon Factories. (pre-1973 *CIP*)
IMF412	Food: NACE 412 (post-1973 *CIP*)
IMF413	Food: NACE 413 (post-1973 *CIP*)
INFRES	Food: Residual i.e. IMF-IMF412-IMF413 (post-1973 *CIP*)
SMDF	Distribution and Finance
SMPH	Professional Services (including Health and Education)
SMDT	Distribution, Transport and Communication
SMFI	Finance and Insurance Services
SMPS	Other Professional (SMPF-SMFI)
SNH	Health Services
SNE	Education Services
IUE	Electricity
IUG	Gas
IUW	Water

4.3 Additional Information

The third set of letters, which are normally prefixed by an underscore, give additional information about the **source of the data** or the **mathematical form** of the variables (e.g. _OECD indicates that the data for the series was taken from an OECD data source or refer to the OECD area, _DOT indicates that the variable is in percentage change form, V indicates the data are in value - i.e. current price - form, etc.) The following is a list of these suffixes.

_B	Building - E. Henry investment data
_CSO	Unpublished data from *CSO*
_CUR	Capacity Utilisation Rate
_CURA	Capacity Utilisation Rate
_C	*CIP* data
_DIS	Statistical Discrepancy
_DOT	Percentage change form
_E	Expected value (moving average)
_EC	Data for EC countries
_F	Fix relating *CIP* data to *NIE* data
_FIX	Fix generated for the model's behavioural equations
_GER	Data for Germany
_K	Data in kilowatt hours (energy data)
_L	Data in litres (energy data)
_LF	*Labour Force Survey* data

_M	Data in '000s of metric tons (energy data)
_MEAN	Mean value of series
_NC	"New" *CIP* data i.e. post-1973
_OC	"Old" *CIP* data i.e. pre-1973
_OE	*OECD National Accounts* data
_OECD	Data for OECD countries
75_OE	*OECD National Accounts* data - 1975 prices
80_OE	*OECD National Accounts* data - 1980 prices
85_OE	*OECD National Accounts* data - 1985 prices
_P	Plant - E. Henry investment data
_STAR	Optimal/long-run value (moving average)
_T	Data in millions of TOEs (energy data)
_UK	Data for UK
_USA	Data for US
_V	Vehicles and other - - E. Henry investment data
V	Data in value terms - current prices

The following examples illustrate the mnemonic system (See Appendix 1 for a complete list of all the variable mnemonics).

IIMBM80_OE	Manufacturing Investment: Basic Metal Industries in 1980 prices. Source: OECD National Accounts
LIMCH_LF	Manufacturing Employment: Chemical Industries. Source: Labour Force Survey
QIUG_NC	Index of Volume of Output: Gas. Source: CIP New
QMIMCFV_OC	Material Inputs: Clothing and Footwear Industries. Source: CIP Old
PQGIMT_UK	Price Deflator of UK Gross Output in Manufacturing Industries.
OSMPF_CUR_MEAN	Mean Value of the Capacity Utilisation Rate for Value-added in Professional and Financial Services Industries.

4.4 The Energy Series Mnemonics

4.4.1 The OECD Data

The data series on consumption of energy from the OECD Energy Balances all begin with the letters EN. Immediately following this is a number denoting the type of fuel. (The price series for each fuel are denoted by PEN followed by one of the numbers below for each dif-

ferent fuel type.) The following are the numbers used:

1	Coal
3	Brut Crude Oil
4	Oil
41	Motor Gasoline
42	Diesel Oil
43	Residual Fuel Oil
6	Gas
7	Electricity
8	Turf
81	Turf Briquettes
82	Bagged Turf

The letters following these numbers describe the sector or economic use as follows:

C	Residential Consumption
E	Electricity Works Use of
FC	Final Consumption
G	Gas Works Use of
I	Consumption
IB	Construction Sector Consumption
IMCH	Chemical Sector Consumption
IMCHF	Chemical Sector Feedstocks from
IMFD	Food and Tobacco Sector Consumption
IMMM	Industrial Machinery Consumption
SMTC	Transport Consumption
M	Imports
QD	Production
R	Refineries Use of
TD	Domestic Consumption
X	Exports

4.4.2 The CIP Data

Data on total consumption of energy by ISIC category for the period 1970 to 1973 from the old CIP and by NACE category for the period 1973 to 1978 from the new CIP were previ-

ously compiled and coded by Bradley et al.(1983) The series listed in Appendix 2 coded ENGY followed by a two-digit number replicate the industry classification system adopted by Bradley et al. in computerising the CIP data.

From 1979 onwards, the CIP gives a breakdown of sectoral energy consumption by four fuel types. These different fuel types were coded using the following numbers:

1	Coal and Turf
4	Petroleum
7	Electricity
9	Other Fuels

Data from the ESB on consumption of electricity by sector based on Economic Activity Codes (EAC) are available in the databank. The mnemonics used for these data are EAC followed by a two-digit number describing the individual sector.

The following examples illustrate the energy mnemonic system (See Appendix 2 for a complete listing):

EN1C_T	Residential Consumption of Coal in millions of TOE's.
EN42IMCH_M	Chemical Sector Consumption of Diesel Oil in '000s of metric tons.
QEIMDT4V_NC	Drink and Tobacco Sector Consumption of Coal and Turf

5 The Investment Data

Three basic sources were used in constructing the investment data - *NIE*, the OECD National Accounts and the *CIP*. This section will describe in detail only those series derived from sources other than the CSO National Accounts. Section 5.4 contains a listing of the macro (DBMAIN11) used to generate all of the investment series.

5.1 Sectoral Industrial Data

The OECD National Accounts have manufacturing investment data broken into the following nine sectoral classifications:

1. Food, beverages and tobacco
2. Textile, wearing apparel and leather industries
3. Wood and wood products, including furniture
4. Paper and paper products, printing and publishing.

5.   Chemicals and chemical petroleum, coal, rubber and plastic products.
6.   Non-mettalic mineral products except products of petroleum and coal.
7.   Basic metal industries.
8.   Fabricated metal products, machinery and equipment.
9.   Other manufacturing industries.

Items 5, 7 and 8 were combined to define the hi-tech investment data. Food industries investment is not separately identified in the OECD Accounts, this item was taken from the CIP investment data for the food processing sector. Mining & Quarrying investment is also separately identified in the OECD Accounts, this is added to the residual item for manufacturing industries (net of hi-tech and food investment) to give the traditional sector's investment.

The OECD investment data for manufacturing are only available from 1970 onwards, the data prior to that date were taken from the CIP and linked to the OECD data.

The investment data in value terms for each manufacturing sector, as described above, were deflated by a common investment deflator (PIIMT - the implicit investment deflator in the National Accounts) to give investment data in volume terms.

The building and utilities sector data are both taken from the CSO National Accounts.

5.2 Sectoral Services Data

The services investment data is taken from the OECD Accounts and the *NIE*. These data were all available in computerised format with the exception of the health services data which had to be computerised. The total services investment data as given in the NIE was adjusted to exclude investment in housing which is identified separately. Transport and communications investment data as given in the OECD includes roads investment, this was also adjusted for. Community, social and personal services investment includes health, and water supply and sewerage investment, netting off these latter and adding on financial sector investment gave investment in the professional and financial services sector. Health investment was estimated from the detailed tables in the NIE on public authorities investment.

5.3 Capital Stock Data

The data on the capital stock for each sector was derived using an initial value, a flow series (investment series) and a depreciation rate. The initial values for the capital stock for each sector were estimated from Henry's(1989) data and the capital stock was generated using the macro CAPSTK. This generates the capital stock for sector i as follows:

$$K_i = I_i + (1 - \delta).K_{i, -1}$$

where

K_i is the capital stock in sector i

I_i is the investment series in sector i

δ is the depreciation rate of the capital stock.

5.4 The Investment Macro

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DBMAIN11 -

&* THIS MACRO GENERATES THE INVESTMENT AND CAPITAL STOCK DATA.OTHER
&* SERIES NEEDED AS INPUT:
&* IIM IIMV ISFI ISFIV ISTR ISTRV ISDI ISDIV  ISCP ISCPV
&* IPA IPAV IPAE IPAEV ISNHV ISNH75_OE ISNH80_OE ISNH85_OE
&* IIMFDV_OE IIMCLV_OE IIMWDV_OE IIMPPV_OE IIMCHV_OE IIMGLV_OE
&* IIMBMV_OE IIMFMV_OE IIMFV_NC IIMDTV_NC IIMMQV_OE
&* THESE SERIES ARE FROM THE OECD INVESTMENT DATA.
&••••••••••••••••••••••••••••••••••••••••••••••••••
&*TEMPORARY RENAMING OF FILES
DO
ISNP=IPA,
ISNPV=IPAV,
ISNE=IPAE,
ISNEV=IPAEV,
ISMFI=ISFI,
ISMFIV=ISFIV,
ISMDI=ISDI,
ISMDIV=ISDIV;
&••••••••••••••••••••••••••••••••••••••••••••••••••••
&PRINT
IF THE BASE YEAR FOR CONSTANT PRICE DATA IS CHANGED THE STARTING
VALUES FOR THE CAPITAL STOCK SERIES NEED TO BE REBASED. &END
&GET
&1"STARTING VALUE FOR KAG FOR 1952"
&2"STARTING VALUE FOR KIB FOR 1949"
&3"STARTING VALUE FOR KIU FOR 1949"
&4"STARTING VALUE FOR KIMH FOR 1957"
&5"STARTING VALUE FOR KIMF FOR 1957"
&6"STARTING VALUE FOR KIMD FOR 1957"
&7"STARTING VALUE FOR KSMDI FOR 1952"
&8"STARTING VALUE FOR KSMTC FOR 1952"
&9"STARTING VALUE FOR KSMFI FOR 1952"
&10"STARTING VALUE FOR KSMPS FOR 1958"
&11"STARTING VALUE FOR KSNHE FOR 1958"
&12"STARTING VALUE FOR KSNP FOR 1950"
&13"STARTING VALUE FOR KSMGR FOR 1950"
&14"STARTING VALUE FOR KH FOR 1952"
&END
&ERROR &IGNORE
DO
IH=B1701,
IBC=B1702+B1703,
IB=IH+IBC,
IME=B1704+B1705+B1706,
ITOT=IB+IME,
IHV=B1501,
IBCV=B1502+B1503,
```

```
IBV=IHV+IBCV,
IMEV=B1504+B1505+B1506,
ITOTV=IBV+IMEV,
IMEGV=GKIME,
IBCGV=GKIBC,
IHGV=GKIH,
IMEPV=IMEV-IMEGV,
IBCPV=IBCV-IBCGV,
IHPV=IHV-IHGV,
PIB=IBV/IB,
PIME=IMEV/IME,
PIH=IHV/IH,
PIBC=IBCV/IBC,
PITOT=ITOTV/ITOT,
IHP=IHPV/PIH,
IBCP=IBCPV/PIBC,
IMEP=IMEPV/PIME,
IHG=IHGV/PIH,
IBCG=IBCGV/PIBC,
IMEG=IMEGV/PIME,
PIME_DOT=DEL(PIME)/PIME(-1)*100.,
PIH_DOT=DEL(PIH)/PIH(-1)*100.,
PIBC_DOT=DEL(PIBC)/PIBC(-1)*100.;
&LINKSER3 "(IIMFV_NC)" "(IIMFV_OC)" "(IIMFV)"
DO
IIMHV_OC=IIMCHV_OC+IIMMMV_OC,
IIMDV_OC=IIMTV_OC-IIMHV_OC-IIMFV_OC,
IIMHV_OE=IIMCHV_OE+IIMBMV_OE+IIMFMV_OE,
IIMDTV_OE=IIMFDV_OE-IIMFV,
IIMDV_OE=IIMDTV_OE+IIMCLV_OE+IIMWDV_OE+IIMPPV_OE+IIMGLV_OE+IIMMQV_OE;
&LINKSER3 "(IIMHV_OE)" "(IIMHV_OC)" "(IIMHV)"
&LINKSER3 "(IIMDV_OE)" "(IIMDV_OC)" "(IIMDV)"
&LINKSER3 "(IIMMQV_OE)" "(IIMMQV_OC)" "(IIMMQV)"
DO
IAGV=B1601,
IIUV=B1602,
IIBV=B1604,
IIMTV=B1603,
IIMV=IIMTV-IIMMQV,
&****************************************************
&*TEMPORARY EXTENSION OF IIMHV AND IIMDV TO 1987 USING CIP GROWTH
&*RATES
    IIMHVDEL_X'C=1+((238057-202217)/202217),
    IIMHV_X'C=VALUE(IIMHV,1986)*IIMHVDEL_X'C,
    IIMHV=COMBINE(IIMHV,IIMHV_X'C),
    IIMDV_X'C=VALUE(IIMTV,1987)-VALUE(IIMHV,1987)-VALUE(IIMFV,1987),
    IIMDV=COMBINE(IIMDV,IIMDV_X'C),
&****************************************************
IIV=IIBV+IIUV+IIMTV,
PIIMT=B1603/B1803,
IAG=B1801,
IIU=B1802,
IIB=B1804,
IIMD=IIMDV/PIIMT,
IIMH=IIMHV/PIIMT,
IIMF=IIMFV/PIIMT,
IIMMQ=IIMMQV/PIIMT,
IIMT=B1803,
IIM=IIMT-IIMMQ,
II=IIB+IIU+IIMT;
DO
ISV_X=ISMFIV+ISTRV+ISMDIV+ISCPV+ISNPV+ISNEV,
IS_X=ISMFI+ISTR+ISMDI+ISCP+ISNP+ISNE;
&LINKSER3 "(B1605+B1606-IHV)" "(ISV_X)" "(ISV)"
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```
&LINKSER3 "(B1805+B1806-IH)" "(IS_X)" "(IS)"
&LINKSER3 "(ISNH80_OE)" "(ISNH75_OE)" "(ISNH_XX)"
&LINKSER3 "(ISNH85_OE)" "(ISNH_XX)" "(ISNH_X)"
DO PISCP=ISCPV/ISCP;
&LINKSER3 "(ISNH_X)" "((B2517+B2449+B2450)/PISCP)" "(ISNH)"
&LINKSER3 "(ISNHV_OE)" "(B2517+B2449+B2450)" "(ISNHV)"
DO
ISNHEV=ISNEV+ISNHV,
ISNHE=ISNE+ISNH,
ISNPV=ISNPV,
ISNP=ISNP,
ISMTCV=ISTRV-B1502,
ISMTC=ISTR-B1702,
ISMDTV=ISMDIV+ISMTCV,
ISMDT=ISMDI+ISMTC,
ISMGRV=B1502,
ISMGR=B1702,
ISMGWV=B2518,
ISMGW=B2518*B1703/B1503,
ISMGV=ISMGRV+ISMGWV,
ISMG=ISMGR+ISMGW,
ISMPFV=ISMFIV+ISCPV-ISNHV-ISMGWV,
ISMPF=ISMFI+ISCP-ISNH-ISMGW,
ISMPSV=ISMPFV-ISMFIV,
ISMPS=ISMPF-ISMFI,
ISMV=ISV-ISNHEV-ISNPV,
ISM=IS-ISNHE-ISNP,
ITOTV_DIS=ITOTV-ISV-IIV-IAGV-IHV,
ITOT_DIS=ITOT-IS-II-IAG-IH,
IIMTV_DIS=IIMTV-IIMHV-IIMDV-IIMFV,
IIMT_DIS=IIMT-IIMH-IIMD-IIMF,
ISV_DIS=ITOTV-IAGV-IHV-IIUV-IIBV-B1603-ISV,
IS_DIS=ITOT-IAG-IH-IIU-IIB-B1803-IS,
ISNV=ISNPV+ISNHEV,
ISN=ISNP+ISNHE,
ITNG=II+IAG+ISM-ISMGR-ISMGW,
PIAG=IAGV/IAG,
PIIMT=IIMTV/IIMT,
PIIM=IIMV/IIM,
PIIMH=IIMHV/IIMH,
PIIMD=IIMDV/IIMD,
PIIMF=IIMFV/IIMF,
PIIB=IIBV/IIB,
PIIU=IIUV/IIU,
PII=IIV/II,
PIS=ISV/IS,
PISMPF=ISMPFV/ISMPF,
PISMDT=ISMDTV/ISMDT,
PISNHE=ISNHEV/ISNHE,
PISNH=ISNHV/ISNH,
PISNE=ISNEV/ISNE,
PISMPS=ISMPSV/ISMPS,
PISMFI=ISMFIV/ISMFI,
PISMTC=ISMTCV/ISMTC,
PISMDI=ISMDIV/ISMDI,
PISMG=ISMGV/ISMG,
PISMGR=ISMGRV/ISMGR,
PISMGW=ISMGWV/ISMGW,
PISM=ISMV/ISM,
PISN=ISNV/ISN,
PISNP=ISNPV/ISNP;
   &CAPSTK 1952 &1 .05 IAG KAG
   &CAPSTK 1949 &2 .15 IIB KIB
   &CAPSTK 1949 &3 .05 IIU KIU
```

```
&CAPSTK 1957 &4 .10 IIMH KIMH
&CAPSTK 1957 &5 .08 IIMF KIMF
&CAPSTK 1957 &6 .08 IIMD KIMD
&CAPSTK 1952 &7 .05 ISMDI KSMDI
&CAPSTK 1952 &8 .05 ISMTC KSMTC
&CAPSTK 1952 &9 .05 ISMFI KSMFI
&CAPSTK 1958 &10 .05 ISMPS KSMPS
&CAPSTK 1958 &11 .05 ISNHE KSNHE
&CAPSTK 1952 &12 .05 ISNP KSNP
&CAPSTK 1952 &13 .05 ISMGR KSMGR
&CAPSTK 1952 &14 .05 IH KH
&CAPSTK 1958 &15 .05 ISMG KSMG
DO
KIMT=KIMH+KIMD+KIMF,
KI=KIMT+KIU+KIB,
KSMGW=KSMG-KSMGR,
KSM=KSMDI+KSMTC+KSMFI+KSMPS+KSMG,
KSMDT=KSMDI+KSMTC,
KSMPF=KSMFI+KSMPS,
KSN=KSNHE+KSNP,
KS=KSM+KSN;
DO KIBAR=(KI+KI(-1))/2.0;
DELETE DATA ********_X**;
&*VARIABLES REQUIRED FOR PREVIOUS VERSION OF MODEL
LINKD DATA  ISN IGIN IB IHBC IME INB ISNP IPA
ISNPV IPAV ISNHE ISHE ISNHEV ISHEV  PISNP PIPA
PISNHE PISHE ;
```

6 The Final Demand Data

The macro listed below - DBMAIN14 - generates a series of weighted final demand variables using weights from the 1975 Input-Output Table.

```
DBMAIN14 -
&* THIS MACRO CREATES A SERIES OF WEIGHTED FINAL DEMAND VARIABLES.
&* THE WEIGHTS ARE A SERIES OF MATRICES DERIVED FROM THE 1975 IO TABLE
&* THE WEIGHTING MATRICES ARE: WEIGHT1 .. WEIGHT5
&ERROR &IGNORE
DOSAVE
Z.1'L=LCOMBINE(<QMA>,<QRIMF>,<QRIMH>,<QRIMD>,<QGIU>,
          <QMIB>,<OSMDI>,<OSMTC>,<OSMPF>,<OSNHE>,<OSNP>),
Z.6'L=LCOMBINE(<QGA>,<QGIMF>,<QGIMH>,<QGIMD>,<QGIU>,
          <QGIB>,<OSMDI>,<OSMTC>,<OSMPF>,<OSNHE>,<OSNP>),
Z.2'L=LCOMBINE(<XTO>,<C>,<IB>,<IME>,<STADL>,<STNADL>,<STIVDL>,
          <XA>,<XSO>,<OSNP>,<GCGOW>,<GCGNP>),
Z.3'L=LCOMBINE(Z.1'L,Z.2'L),
Z.4'L=LABFORM(<'FDW',A>,0,Z.6'L),
Z.5'L=LABFORM(<'FDX',A>,0,Z.6'L),
&* GENERATE A MATRIX OF THE GROSS OUTPUTS, MATERIAL INPUTS AND FINAL
&* DEMANDS.
X.1=COLNTF(21,Z.3'L),
&* WHERE THE OUTPUT SERIES ARE VALUE ADDED RATHER THAN GROSS OUTPUT
&* THEY MUST BE ADJUSTED BY THE RATIO OF VALUE ADDED TO GROSS OUTPUT
&* IN 1975.
&* WHERE THE OUTPUT SERIES ARE MATERIAL INPUTS RATHER THAN GROSS OUTPUT
&* THEY MUST BE ADJUSTED BY DIVIDING BY THE SUM OF THE INPUT COEFFICIENTS
&* IN 1975.
&* THE OUTPUT AND FINAL DEMAND SERIES USED:
&PRINT THE OUTPUT AND FINAL DEMAND SERIES USED: &END
PRINT(Z.3'L),
&* ADJUST THE WEIGHTS TO TAKE ACCOUNT OF WHETHER THE SERIES USED ARE
```

```
&* GROSS OUTPUT, NET OUTPUT, MATERIAL INPUTS, OR MATERIAL INPUTS
&* EXCLUDING ENERGY.
&* SUM OF MATERIAL INPUTS, IMPORTS AND ENERGY INTO EACH SECTOR:
X.3=COLSUM(WEIGHT1)+SUBMAT(WEIGHT3,7,0),
&* SUM OF MATERIAL INPUTS AND IMPORTS EXCLUDING ENERGY:
X.4=X.3-SUBMAT(WEIGHT1,5,0)-SUBMAT(WEIGHT3,3,0),
&* NET OUTPUT OF EACH SECTOR:
X.5=SUBMAT(WEIGHT3,16,0),
&* GENERATE WEIGHTS FOR THE SHARE OF ENERGY USE GOING TO UTILITIES:
X.6=SUBMAT(WEIGHT1,5,0)/(SUBMAT(WEIGHT1,5,0)+SUBMAT(WEIGHT3,3,0)),
&* MATRIX TO ADJUST THE I-O COEFFICIENTS:
X.7=COMBINE(SUBMAT(X.3,0,1),SUBMAT(X.4,0,SEQ(2,4)),1,SUBMAT(X.3,0,6),
            SUBMAT(X.5,0,SEQ(7,11))),
X.2=IDEN(11),
X.2=SETREP(X.2,SEQ(1,11),SEQ(1,11),1/X.7),
&* ADJUST THE I-O COEFFICIENTS:
X.2=MATMULT(WEIGHT1,X.2),
&* ENTER THE TOURISM WEIGHTS
X.8=COMBINE(0,.091,0,.073,.007,0,.066,.266,.35,0,0),
&* REPLACE THE WEIGHTS FOR GCG WITH SPECIAL WEIGHTS FOR GCGNP
X.9=DELCOL(WEIGHT2,COMBINE(2,9,11)),
X.10=COMBINE(0,0,0,0,0,0,0,0,0,0,1),
X.11=COMBINE(0,0,0,0,0,0,0,0,0,1,0),
&* FROM THE WEIGHTING MATRIX
X.2=MATCOMB(X.2,X.8,X.9,X.10,X.11,WEIGHT7),
PRTMAT(X.2,Z.4'L,Z.3'L,0,0,8,LCOMBINE(
      <THE MATRIX OF WEIGHTS FOR THE FINAL DEMAND VARIABLES>),1),
ROWSPLIT(MATMULT(X.2,TRANSP(X.1)),Z.4'L);
&START Z.4 &IFARG(21)
&* THE WEIGHTED FINAL DEMAND VARIABLE FOR UTILITIES NEEDS TO BE ADJUSTED
DO FDWQGIU=FDWQGIU-VALUE(X.2,5,2)*QRIMF-VALUE(X.2,5,3)*QRIMH-
                   VALUE(X.2,5,4)*QRIMD+
                   VALUE(X.6,1,2)*QEIMF+VALUE(X.6,1,3)*QEIMH+
                   VALUE(X.6,1,4)*QEIMD;
&* ****************************************************************
·&* WEIGHTED FINAL DEMAND VARIABLES FOR THE PRIMARY INPUTS MAY BE
&* GENERATED HERE.
&* THE OLD WEIGHTED FINAL DEMAND VARIABLES SHOULD ALSO BE GENERATED HERE
&* ****************************************************************
DO DATA_IO_IOWEIGHT=X.2,
   DATA_IO_IOWEITIU=X.6;
```

7 The Cost of Capital Data

The cost of capital series are derived as a function of interest rates, a sector specific inflation rate, a sectoral depreciation rate, a grant rate and the corporate tax rate. The exact formula for sector i is as follows:

$$PK = PIXXX * PK_i = \Pi_i .(1 - g).*(i - p + \delta)/(1 - t)$$

where
PK_i is the derived cost of capital series
Π_i is the investment deflator for sector i
g is the rate of capital grant applying to sector i
i is the nominal interest rate

p is the percentage change in the output price deflator for sector i

δ is the depreciation rate for sector i

t is the corporation tax rate applying to sector i

The macro DBMAIN15 and DBSUB7 as listed below generate the cost of capital series for each sector in the manner described above. The real interest rate (nominal rate adjusted for the inflation rate) is not allowed to fall below 2% in any year.

```
DBMAIN15 -

&DBSUB7 IMH PQGIMH RPL .1 RCORP3 "GKTI/IIMTV"
&DBSUB7 IMF PQGIMF RPL .08 RCORP4 "GKTI/IIMTV"
&DBSUB7 IMD PQGIMD RPL .08 RCORP4 "GKTI/IIMTV"
&DBSUB7 IMT PQGIMT RPL .08 RCORP4 "GKTI/IIMTV"
&DBSUB7 IB PIB RPL .15 RCORP1 ;
&DBSUB7 IU PQGIU RPL .05 RCORP1 ;
&DBSUB7 I  PQGIMT RPL .08 RCORP4 "GKTI/IIMTV"
&DBSUB7 SMDI PC RPL .05 RCORP1 ;
&DBSUB7 SMTC POSMTC RPL .1 RCORP1 ;
&DBSUB7 SMDT POSMDT RPL .05 RCORP1 ;
&DBSUB7 SMPF POSMPF RPL .05 RCORP1 ;
&DBSUB7 SMPS POSMPS RPL .05 RCORP1 ;
&DBSUB7 SMFI POSMFI RPL .05 RCORP1 ;
&DBSUB7 SM   POSM  RPL .05 RCORP1 ;
&DBSUB7 H PC RPL .01275 "RCORP1*0" RGKTH


DBSUB7 -

&GET &1"SECTOR NAME E.G. IMH"
     &2"NAME OF OUTPUT DEFLATOR FOR THE SECTOR"
     &3"NAME OF INTEREST RATE SERIES"
     &4"RATE OF DEPRECIATION, COEFFICIENT FORM E.G. 0.12"
     &5"NAME OF CORPORATE TAX RATE SERIES"
     &6"NAME OF RATE OF GRANT SERIES. IF NONE THEN ;" &END
&IF &6 CEQ ; &GOTO LABEL1 &IFEND
DOSAVE X.1=&6;
&GOTO LABEL2
&LABEL1:
DOSAVE X.1 = YEAR(PI&1)*0;
&LABEL2:
DOSAVE X.2=&3/100-DEL(&2)/&2(-1),
       X.2=IF X.2 LT .02 THEN .02 ELSE X.2;
DO PK&1=PI&1*(1-X.1)*(X.2+&4)/(1-&5);
```

8 The Energy Data

The macro for generating the energy series - DBMAIN17 - is listed below. A series of operations is performed on the data from the Energy Balance Sheets to generate residual categories, to convert units, and to aggregate the data into consumption by the three manufacturing sectors by fuel type. The pre-1979 CIP data are aggregated into the three manufacturing sector categories and then linked to the post-1979 CIP data to give energy consumption by each manufacturing sector in current prices. The sub macro DBSUB8 uses the consumption data in physical units from the Energy Balance Sheets and the individual fuel prices to construct an energy price index for each of the manufacturing sectors. From

this, constant price energy consumption data can be derived. A weighted price index for other material inputs for each manufacturing sector is also constructed using weights from the 1975 Input-Output Tables.

```
DBMAIN17 -
&* THIS MACRO GENERATES THE ENERGY INPUT DATA BY SECTOR. IT ALSO GENERATES
&* THE REST OF MATERIALS INPUT BY SECTOR.
&* NEW DATA REQUIRED AS INPUT
&* DATA FROM THE OECD ENERGY BALANCE SHEETS
&* EN1M_T EN4M_T
&* DATA FROM OECD ENERGY STATISTICS
&*
&* PRICE DATA: SOURCE S. SCOTT 1989 EXCEPT FOR
&* ELECTRICTY IN INDUSTRY AND DIESEL.
&* DATA ON TURF AND HYDRO PRODUCTION
&*
&*
&GET &1"BASE YEAR FOR CONSTANT PRICE DATA :" &END
DO
    EN3M_T=EN3M_M/1000*1.007,
    EN41M_T=EN41M_M*1.073/1000,
    EN42M_T=EN42M_M*1.045/1000,
    EN43M_T=EN43M_M*.969/1000,
    EN49M_T=EN4M_T-EN3M_T-EN41M_T-EN42M_T-EN43M_T,
    EN41FC_T=EN41FC_M*1.073/1000,
    EN42FC_T=EN42FC_M*1.045/1000,
    EN43FC_T=EN43FC_M*0.969/1000,
    EN49FC_T=EN4FC_T-EN41FC_T-EN42FC_T-EN43FC_T,
    ENM_T=EN1M_T+EN4M_T,
    M3_DIS=M3/ENM_T,
    ENX_T=EN1X_T+EN4X_T,
    X3_DIS=X3V/(PM3*ENX_T),
    ENQD_T=EN1QD_T+EN8QD_T+EN6QD_T+EN7QD_T,
    EN1BA_T=EN1TD_T-(EN1QD_T+EN1M_T-EN1X_T),
    EN3TD_T=EN3TD_M*1.007/1000,
    EN3BA_T=EN3TD_T-(EN3M_T-EN3X_M*1.007/1000),
    EN4BA_T=EN4TD_T-(EN4M_T-EN4X_T),
    EN6TD_T=EN6QD_T,
    EN7TD_T=EN7QD_T,
    EN6BA_T=EN6TD_T-(EN6QD_T),
    EN7BA_T=EN7TD_T-(EN7QD_T),
    EN8BA_T=EN8TD_T-(EN8QD_T),
    ENTD_T=EN1TD_T+EN4TD_T+EN6TD_T+EN7TD_T+EN8TD_T,
    ENBA_T=ENTD_T-(ENQD_T+ENM_T-ENX_T),
    ENFC_T=EN1FC_T+EN4FC_T+EN6FC_T+EN7FC_T+EN8FC_T,
    ENUL_T=-(EN1E_T+EN8E_T+EN4E_T+EN6E_T)+EN7TD_T-(EN1G_T+EN4G_T)-EN4R_T,
    ENOL_T=ENTD_T-ENFC_T-ENUL_T,
    ENI_T=EN1I_T+EN4I_T+
          EN6I_T+EN7I_T+EN8I_T,
    ENIMCH_T=EN4IMCH_T+EN6IMCH_T+EN7IMCH_T,
    ENIMCHF_T=EN6IMCHF_T,
    ENIMMM_T=EN4IMMM_T+EN7IMMM_T,
    ENIMFD_T=EN4IMFD_T+EN7IMFD_T,
    ENIB_T=EN4IB_T,
    ENSMTC_T=EN4SMTC_T,
    ENC_T=EN1C_T+EN4C_T+EN6C_T+EN7C_T+EN8C_T,
    ENRES_T=ENFC_T-ENI_T-ENSMTC_T-ENC_T,
    ENIMF_T=ENIMFD_T,
    ENIMH_T=ENIMCH_T+ENIMMM_T,
    ENIMD_T=ENI_T-ENIB_T-ENIMF_T-ENIMH_T,
    EN42IMF_T=EN42IMFD_M/1000*1.045,
    EN42IMH_T=(EN42IMCH_M+EN42IMMM_M)*1.045/1000,
    EN42IB_T=EN42IB_M*1.045/1000,
```

```
EN42IMD_T=EN42I_M/1000*1.045-EN42IB_T-EN42IMH_T-EN42IMF_T,
EN43IMF_T=EN43IMFD_M/1000*0.969,
EN43IMH_T=(EN43IMCH_M/1000+EN43IMMM_M/1000)*0.969,
EN43IMD_T=EN43I_M/1000*0.969-EN43IMH_T-EN43IMF_T,
EN49IMF_T=EN4IMFD_T-EN42IMF_T-EN43IMF_T,
EN42IM_T=EN42IMF_T+EN42IMD_T+EN42IMH_T,
EN43IM_T=EN43IMF_T+EN43IMD_T+EN43IMH_T,
EN4IMF_T=EN4IMFD_T,
EN4IMH_T=EN4IMCH_T+EN4IMMM_T,
EN49IMH_T=EN4IMH_T-EN42IMH_T-EN43IMH_T,
EN49IB_T=EN4IB_T-EN42IB_T-EN43IB_M*0.969/1000,
EN49IMD_T=EN4I_T-EN4IB_T-EN4IMF_T-EN4IMH_T-EN42IMD_T-EN43IMD_T,
CENERGYV=CONB1305+CPETV,
CENERGY =CONB1405+CPET ,
CENERGY_DIS=CENERGY/ENC_T,
QEIMFV_XOC=(
        ENGY04_OC+ENGY05_OC+ENGY06_OC+ENGY07_OC+ENGY08_OC+
        ENGY09_OC+ENGY10_OC+ENGY11_OC+ENGY12_OC+ENGY13_OC)/10**6,
QEIMFV_XNC=(
        ENGY37_NC+ENGY38_NC+ENGY39_NC+ENGY40_NC+ENGY41_NC+
        ENGY42_NC+ENGY43_NC+ENGY44_NC+ENGY45_NC+ENGY46_NC+
        ENGY47_NC)/10**6,
QEIMHV_XOC=(
        ENGY35_OC+ENGY36_OC+ENGY37_OC+ENGY38_OC+ENGY41_OC+
        ENGY42_OC+ENGY43_OC+ENGY44_OC+ENGY45_OC+ENGY46_OC+
        ENGY47_OC)/10**6,
QEIMHV_XNC=(
        ENGY13_NC+ENGY14_NC+ENGY15_NC+ENGY16_NC+ENGY17_NC+
        ENGY07_NC+ENGY08_NC+ENGY18_NC+ENGY19_NC+ENGY20_NC+
        ENGY21_NC+ENGY22_NC+ENGY23_NC+ENGY24_NC+ENGY25_NC+
        ENGY26_NC+ENGY27_NC+ENGY28_NC+ENGY29_NC+ENGY30_NC+
        ENGY31_NC+ENGY32_NC+ENGY33_NC+ENGY34_NC+ENGY35_NC+
        ENGY36_NC)/10**6,
QEIMDV_XOC=(
        ENGY01_OC+ENGY02_OC+ENGY03_OC+ENGY14_OC+ENGY15_OC+
        ENGY16_OC+ENGY17_OC+ENGY18_OC+ENGY19_OC+ENGY20_OC+
        ENGY21_OC+ENGY22_OC+ENGY23_OC+ENGY24_OC+ENGY25_OC+
        ENGY26_OC+ENGY27_OC+ENGY28_OC+ENGY29_OC+ENGY30_OC+
        ENGY31_OC+ENGY32_OC+ENGY33_OC+ENGY34_OC+ENGY39_OC+
        ENGY40_OC+ENGY48_OC+ENGY57_OC)/10**6,
QEIMDV_XNC=(
        ENGY01_NC+ENGY02_NC+ENGY06_NC+ENGY09_NC+ENGY10_NC+
        ENGY11_NC+ENGY12_NC+ENGY48_NC+ENGY49_NC+ENGY50_NC+
        ENGY51_NC+ENGY52_NC+ENGY53_NC+ENGY54_NC+ENGY55_NC+
        ENGY56_NC+ENGY57_NC+ENGY58_NC+ENGY59_NC+ENGY60_NC+
        ENGY61_NC+ENGY62_NC+ENGY63_NC+ENGY64_NC+ENGY65_NC+
        ENGY66_NC+ENGY67_NC+ENGY68_NC+ENGY69_NC+ENGY70_NC+
        ENGY71_NC+ENGY72_NC+ENGY73_NC+ENGY74_NC+ENGY75_NC+
        ENGY76_NC)/10**6,
QEIMDV_X=(
        QEIMDTV_NC+QEIMCFV_NC+QEIMTXV_NC+QEIMWDV_NC+
        QEIMPPV_NC+QEIMGLV_NC+QEIMOTV_NC+QEIMMQV_NC)/10**3,
QEIMFV_X=(QEIMFV_NC)/10**3,
QEIMHV_X=(QEIMCHV_NC+QEIMMMV_NC)/10**3,
QEIMD1V=(QEIMDT1V_NC+QEIMCF1V_NC+QEIMTX1V_NC+QEIMWD1V_NC+
        QEIMPP1V_NC+QEIMGL1V_NC+QEIMOT1V_NC+QEIMMQ1V_NC)/10**3,
QEIMD4V=(QEIMDT4V_NC+QEIMCF4V_NC+QEIMTX4V_NC+QEIMWD4V_NC+
        QEIMPP4V_NC+QEIMGL4V_NC+QEIMOT4V_NC+QEIMMQ4V_NC)/10**3,
QEIMD7V=(QEIMDT7V_NC+QEIMCF7V_NC+QEIMTX7V_NC+QEIMWD7V_NC+
        QEIMPP7V_NC+QEIMGL7V_NC+QEIMOT7V_NC+QEIMMQ7V_NC)/10**3,
QEIMH1V=(QEIMCH1V_NC+QEIMMM1V_NC)/10**3,
QEIMH4V=(QEIMCH4V_NC+QEIMMM4V_NC)/10**3,
QEIMH7V=(QEIMCH7V_NC+QEIMMM7V_NC)/10**3,
QEIMF1V=QEIMF1V_NC/10**3,
```

```
    QEIMF4V=QEIMF4V_NC/10**3,
    QEIMF7V=QEIMF7V_NC/10**3,
    QEIMF9V=QEIMFV_X-QEIMF1V-QEIMF4V-QEIMF7V,
    QEIMH9V=QEIMHV_X-QEIMH1V-QEIMH4V-QEIMH7V,
    QEIMD9V=QEIMDV_X-QEIMD1V-QEIMD4V-QEIMD7V,
    QEIM1V=QEIMF1V+QEIMH1V+QEIMD1V,
    QEIM4V=QEIMF4V+QEIMH4V+QEIMD4V,
    QEIM7V=QEIMF7V+QEIMH7V+QEIMD7V,
    QEIM9V=QEIMF9V+QEIMH9V+QEIMD9V,
&* CONVERT PRICES TO STANDARD UNITS (POUNDS PER TOE) AND GENERATE DIESEL PRICE
    PEN7I=PEN7I_K/.000086,
    PEN42=PEN42_L*1199/1.0344,
    PEN42_X=PEN44+(REXOIL1P-REXOIL3P)*11.99/1.0344;
&LINKSER3 PEN7I PEN7 PEN7I
&LINKSER3 PEN42 PEN42_X PEN42
&LINKSER3 QEIMFV_XNC QEIMFV_XOC QEIMFV
&LINKSER3 QEIMHV_XNC QEIMHV_XOC QEIMHV
&LINKSER3 QEIMDV_XNC QEIMDV_XOC QEIMDV
DO
    QEIMFV=OVERLAY(QEIMFV_X,QEIMFV),
    QEIMHV=OVERLAY(QEIMHV_X,QEIMHV),
    QEIMDV=OVERLAY(QEIMDV_X,QEIMDV),
    QEIMTV=QEIMFV+QEIMHV+QEIMDV;
&* GENERATE PRICE SERIES FOR ENERGY INPUT BY SECTOR
&DBSUB8 &1 IMD
&DBSUB8 &1 IMF
&DBSUB8 &1 IMH
&* GENERATE CONSTANT PRICE SERIES FOR ENERGY INPUT BY SECTOR
DO
    QEIMF =QEIMFV/PQEIMF,
    QEIMD =QEIMDV/PQEIMD,
    QEIMH =QEIMHV/PQEIMH,
    QEIMT =QEIMF+QEIMD+QEIMH,
&* GENERATE REST OF MATERIALS SERIES BY SECTOR
    QRIMFV=QMIMFV-QEIMFV,
    QRIMDV=QMIMDV-QEIMDV,
    QRIMHV=QMIMHV-QEIMHV,
    QRIMTV=QRIMFV+QRIMDV+QRIMHV,
    PQMIB =EXP(0.008*LOG(PQGIMH)+0.195*LOG(PQGIMD)+0.014*LOG(PQGIU)+
               0.083*LOG(POSMDI)+0.021*LOG(POSMTCM)+0.053*LOG(POSMPF)+
               0.018*LOG(PM3)+0.142*LOG(PMGNE))/0.534,
    PQMIU =EXP(0.007*LOG(PQGIMH)+0.053*LOG(PQGIMD)+0.001*LOG(PQGIB)+
               0.003*LOG(POSMDI)+0.010*LOG(POSMTCM)+0.011*LOG(POSMPF)+
               0.487*LOG(PM3)+0.031*LOG(PMGNE))/0.603,
    PQRIMD=EXP(0.013*LOG(PQGA)+0.013*LOG(PQGIMF)+0.010*LOG(PQGIMH)+
               0.012*LOG(POSMDI)+0.040*LOG(POSMTCM)+0.049*LOG(POSMPF)+
               0.304*LOG(PMGNE))/0.441,
    PQRIMH=EXP(0.003*LOG(PQGIMF)+0.069*LOG(PQGIMD)+
               0.009*LOG(POSMDI)+0.056*LOG(POSMTCM)+0.062*LOG(POSMPF)+
               0.434*LOG(PMGNE))/0.633,
    PQRIMF=EXP(0.029*LOG(PQGIMD)+0.018*LOG(POSMTCM)+
               0.013*LOG(POSMDI)+0.020*LOG(POSMPF)+
               0.123*LOG(PMGNE)+0.553*LOG(PQGA))/0.756,
    PQMIB=PQMIB/VALUE(PQMIB,&1),
    PQMIU=PQMIU/VALUE(PQMIU,&1),
    PQRIMD=PQRIMD/VALUE(PQRIMD,&1),
    PQRIMH=PQRIMH/VALUE(PQRIMH,&1),
    PQRIMF=PQRIMF/VALUE(PQRIMF,&1),
    QMIB=QMIBV/PQMIB,
    QMIU=QMIUV/PQMIU,
    QRIMF=QRIMFV/PQRIMF,
    QRIMD=QRIMDV/PQRIMD,
    QRIMH=QRIMHV/PQRIMH,
    QRIMT=QRIMF+QRIMH+QRIMD,
```

```
       PQRIMT=QRIMTV/QRIMT,
       PQEIMT=QEIMTV/QEIMT,
       QNIMH=QGIMH-QEIMH-QRIMH,
       QNIMF=QGIMF-QEIMF-QRIMF,
       QNIMD=QGIMD-QEIMD-QRIMD,
       QNIMT=QNIMH+QNIMF+QNIMD,
       QNIB=QGIB-QMIB,
       QNIBV=QGIBV-QMIBV,
       PQNIB=QNIBV/QNIB,
       QNIU=QGIU-QMIU,
       QNIUV=QGIUV-QMIUV,
       PQNIU=QNIUV/QNIU,
       PQNIMT=QNIMTV/QNIMT,
       PQNIMH=QNIMHV/QNIMH,
       PQNIMF=QNIMFV/QNIMF,
       PQNIMD=QNIMDV/QNIMD;
  DELETE DATA ********_X*;


  DBSUB8 -
  &GET &2"BASE YEAR FOR PRICES :"
       &1"SECTOR NAME (E.G. IMD) :" &END
  &* MACRO TO CALCULATE THE INDUSTRIAL ENERGY PRICES AND VOLUMES
  &ERROR &IGNORE
  DO
    PEN44_X=PEN44/VALUE(PEN44,&(2)),
    PEN43_X=PEN43/VALUE(PEN43,&(2)),
    PEN1_X=PEN1/VALUE(PEN1,&(2)),
    PEN7_X=PEN7I/VALUE(PEN7I,&(2)),
    PEN6_X=PEN6/VALUE(PEN6,&(2)),
    EN&(1)42V_X=PEN44*EN42&(1)_T,
    EN&(1)43V_X=PEN43*EN43&(1)_T,
    EN&(1)4V_X=EN&(1)42V_X+EN&(1)43V_X,
    EN&(1)42_X=EN&(1)42V_X/PEN44_X,
    EN&(1)43_X=EN&(1)43V_X/PEN43_X,
    EN&(1)4_X=EN&(1)42_X+EN&(1)43_X,
    PEN4_X=EN&(1)4V_X/EN&(1)4_X,
    PEN4_XX=VALUE(EN&(1)42_X/EN&(1)4_X,1978)*PEN44_X+
            VALUE(EN&(1)43_X/EN&(1)4_X,1978)*PEN43_X;
  &LINKSER3 "PEN4_X" "PEN4_XX" "PEN4_X"
  DO
    X.1_X=QE&(1)1V/PEN1_X,
    X.4_X=QE&(1)4V/PEN4_X,
    X.6_X=QE&(1)9V/PEN6_X,
    X.7_X=QE&(1)7V/PEN7_X,
    X.T_X=X.1_X+X.4_X+X.6_X+X.7_X,
    X.1_XX=X.1_X/X.T_X,
    X.4_XX=X.4_X/X.T_X,
    X.6_XX=X.6_X/X.T_X,
    X.7_XX=X.7_X/X.T_X,
    PENT_X =X.1_XX*PEN1_X+X.4_XX*PEN4_X+X.6_XX*PEN6_X+X.7_XX*PEN7_X,,
    PENT_XX=VALUE(X.1_XX,1979)*PEN1_X+
            VALUE(X.4_XX,1979)*PEN4_X+
            VALUE(X.6_XX,1979)*PEN6_X+
            VALUE(X.7_XX,1979)*PEN7_X;
  &LINKSER3 "PENT_X" "PENT_XX" "PQE&(1)"
```

9 The Employment Data

The macro DBMAIN2 generates the employment data. The data for the three manufacturing sectors are taken from the CIP data on employment. From 1973 onwards these data are available from the CSO databank (prefix AIAA). These data are linked to the pre-1973 CIP employment data. The data for the services sectors are taken from the Labour Force Survey. The data before 1975 are scaled to sum to total sevices sector employment as derived residually, using each sector's share of total services employment.

```
DBMAIN2 -

&*THIS MACRO GENERATES THE LABOUR FORCE DATA. ADDITIONAL VARIABLES
&*TO BE INPUT ARE;LSMTC_LF LSNP_LF LSMPS_LF LSMDF_LF LSMFI_LF LSMDI_LF
&*LIMF_OC LIMDT_OC LIMTX_OC LIMCF_OC LIMWD_OC LIMPP_OC LIMCH_OC LIMGL_OC
&*LIMMM_OC LIMOT_OC LAFISH_LF LAFOR_LF  LSNHE
&*LIMMQ LIM LAG LIB LIU LTOT LF NT NLE14 NGE65 NLFED POPMMEMP
&*POPMMNAE POPFMNAE.
&*FROM CSO DATABANK: AIAA762 AIAA766 AIAA773 AIAA799
&*AIAA811 AIAA817 AIAA824 AIAA833 AIAA839 AIAA842 AIAA843
&*
&ERROR &IGNORE
&*******************************************************
&*TEMPORARY RENAMING OF FILES
DO L=LTOT,
    LIMMQ=LIMN;
&*******************************************************
DO LIMF_NC=AIAA799/1000,
    LIMDT_NC=AIAA811/1000,
    LIMFD_NC=LIMF_NC+LIMDT_NC,
    LIMCL_NC=(AIAA817+AIAA824)/1000,
    LIMWD_NC=AIAA833/1000,
    LIMPP_NC=AIAA839/1000,
    LIMCH_NC=AIAA766/1000,
    LIMGL_NC=AIAA762/1000,
    LIMMM_NC=AIAA773/1000,
    LIMOT_NC=(AIAA842)/1000,
    LIREF_NC=AIAA843/1000,
    LIMCL_OC=LIMTX_OC+LIMCF_OC;
&LINKSER3 "(LIMF_NC)" "(LIMF_OC)" "(LIMF)"
&LINKSER3 "(LIMDT_NC)" "(LIMDT_OC)" "(LIMDT)"
&LINKSER3 "(LIMCL_NC)" "(LIMCL_OC)" "(LIMCL)"
&LINKSER3 "(LIMWD_NC)" "(LIMWD_OC)" "(LIMWD)"
&LINKSER3 "(LIMPP_NC)" "(LIMPP_OC)" "(LIMPP)"
&LINKSER3 "(LIMCH_NC)" "(LIMCH_OC)" "(LIMCH)"
&LINKSER3 "(LIMGL_NC)" "(LIMGL_OC)" "(LIMGL)"
&LINKSER3 "(LIMMM_NC)" "(LIMMM_OC)" "(LIMMM)"
&LINKSER3 "(LIMOT_NC)" "(LIMOT_OC)" "(LIMOT)"
DO LIMFD=LIMF+LIMDT,
    LIMH=LIMCH+LIMMM,
    LIMD=LIMCL+LIMWD+LIMPP+LIMGL+LIMOT+LIMDT+LIMMQ,
    LIMT_C=LIMH+LIMD+LIMF,
    LIMT=LIM+LIMMQ,
    LIMT_F=LIMT/LIMT_C,
    LAFISH=NAINTERP(LAFISH_LF),
    LAFOR=NAINTERP(LAFOR_LF),
    LAFF=LAFISH+LAFOR,
    LA=LAG-LAFF,
    LI=LIMT+LIU+LIB,
    LS=L-LI-LA,
    LS_X=LSMTC_LF+LSNP_LF+LSMPH_LF+LSMDF_LF,
    LSMTC=OVERLAY((IF YEAR(LSMTC_LF) LT 1975 THEN LS*(LSMTC_LF/LS_X)
ELSE LSMTC_LF),LSMTC_LF),
```

```
      LSNP=OVERLAY((IF YEAR(LSNP_LF) LT 1975 THEN LS*(LSNP_LF/LS_X)
 ELSE LSNP_LF),LSNP_LF),
      LSMDF=OVERLAY((IF YEAR(LSMDF_LF) LT 1975 THEN LS*(LSMDF_LF/LS_X)
 ELSE LSMDF_LF),LSMDF_LF),
      LSMDF_X=LSMFI_LF+LSMDI_LF,
      LSMFI_X=NAINTERP(LSMFI_LF/LSMDF_X),
      LSMFI=LSMFI_X*LSMDF,
      LSMDI=LSMDF-LSMFI,
      LSMDT=LSMTC+LSMDI,
      LSN=LSNP+LSNHE,
      LSM=LS-LSN,
      LSO=LS-LSNP,
      LSMPF=LSM-LSMDT,
      LSMPS=LSMPF-LSMFI,
      LNA=LI+LS,
      LM=LSM+LI+LA,
      LMNA=LSM+LI,
      U=LF-L,
      N1564=NT-(NLE14+NGE65),
      NDEP=NLE14+NGE65,
      NLF=N1564-LF,
      N1564A=N1564-NLFED,
      NEDPR=NLFED/N1564*100,
      LFPR=LF/N1564A*100,
      LTR=L/N1564*100,
      UR=U/LF*100,
      URNAT=SUM(I=0 TO -3:UR(I))/4,
      POPCNAE=(NLE14+NLFED)/POPMMEMP,
      POPMNAE=POPMMNAE/LNA,
      POPWNAE=POPFMNAE/LNA,
      URBAR=(UR+UR(-1))/2.0;
 LINKD DATA
 LIMT LIT LA LAG L LTOT LSNHE LSHE LSNP LPA LSN LNM LIB LIB LIM LIM
 LIU LIU;
 DELETE DATA ********_X;
```

10 World Variables

The macro DBMAIN27 generates data on the level of gross output in the hi-tech sector for the OECD countries. The macro DBMAIN28 generates series on output prices and exchange rates for the UK, Germany, the USA and the EC countries. It also generates certain other variables required by the model, e.g. capacity utilisation rates, time variables etc.

```
DBMAIN27 -
&* THIS MACRO GENERATES THE LEVEL OF OECD OUTPUT OF CHEMICALS AND
&* ENGINEERING. IT TAKES AS INPUT FOR THE YEARS UP TO 1975:
&* QGIMCH1_OECD QGIMMM1_OECD.
&* FOR SUBSEQUENT YEARS THE DATA ARE TAKEN FROM THE OECD INDICATORS
&* OF INDUSTRIAL ACTIVITY DATABANK.
SEARCH SYSLIB_DATA_OECDQIN;
DO QGIMCH_OECD=COMPACT(OEC_Q_E9035000,0,1),
    QGIMMM_OECD=COMPACT(OEC_Q_E9038000,0,1),
   · QGIMCH_OECD=OVERLAY(QGIMCH_OECD,QGIMCH1_OECD),
    QGIMMM_OECD=OVERLAY(QGIMMM_OECD,QGIMMM1_OECD),
    QGIMCH_OECD=IF YEAR(QGIMCH_OECD) LT 1975 THEN QGIMCH_OECD*VALUE(
            QGIMCH_OECD/QGIMCH1_OECD,1975) ELSE QGIMCH_OECD,
    QGIMMM_OECD=IF YEAR(QGIMMM_OECD) LT 1975 THEN QGIMMM_OECD*VALUE(
            QGIMMM_OECD/QGIMMM1_OECD,1975) ELSE QGIMMM_OECD,
    QGIMH_OECD =0.25*QGIMCH_OECD+0.75*QGIMMM_OECD;
```

```
DEDIT QGIMH_OECD; COMMENT FROM 1975 ONWARDS THIS SERIES IS DERIVED AS A
WEIGHTED AVERAGE OF THE OUTPUT VOLUME SERIES FOR CHEMICALS AND METALS
AND ENGINEERING FROM THE OECDQIN DATABASE. (THE WEIGHTS REPRESENT THE
VALUE OF OUTPUT IN 1975 OF CHEMICALS (0.25) AND METALS AND ENGINEERING
(0.75) FOR THE EC AND THE USA. PRIOR TO 1975 THE UN IND. STATS.
YEARBOOK INDECES FOR THE US AND THE EC ARE USED.;FILE;


DBMAIN28 -

&* THIS MACRO GENERATES CERTAIN WORLD VARIABLES USING THE OECD
&* MAIN ECONOMIC INDICATORS,ECONOMIC OUTLOOK AND INDICATORS OF
&* INDUSTRIAL ACTIVITY DATABASES.
&GET &1"YEAR FOR BASING INDECES: " &END
DO WIMT_GER=DEU_Y_WRMAN,
   WIMT_UK =GBR_Y_WRMAN,
   WIMT_USA=USA_Y_WRMAN,
   PQGIMT_GER=COMPACT(GER_M_E947000P,0,1)/VALUE(COMPACT(GER_M_E947000P,
             0,1),&1),
   PQGIMT_UK =COMPACT( UK_M_E9471000,0,1)/VALUE(COMPACT( UK_M_E9471000,
             0,1),&1),
   PQGIMT_USA=COMPACT(USA_M_E9470000,0,1)/VALUE(COMPACT(USA_M_E9470000,
             0,1),&1),
   PQGIMF_UK =COMPACT( UK_M_E9471002,0,1)/VALUE(COMPACT( UK_M_E9471002,
             0,1),&1),
   QGIMT_EC  =COMPACT(EEC_M_H9210000,0,1)/VALUE(COMPACT(EEC_M_H9210000,
             0,1),&1),
   QGIMT_UK  =GBR_Y_INDPRO/VALUE(GBR_Y_INDPRO,&1),
   QGIMT_GER =DEU_Y_INDPRO/VALUE(DEU_Y_INDPRO,&1),
   QGIMT_USA =USA_Y_INDPRO/VALUE(USA_Y_INDPRO,&1),
   X.1=COMPACT(OECDQIN_OEC_M_E9030000,0,1),
   X.2=COMPACT(OECDMIN_OEC_M_H9210000,0,1),
   X.2=IF X.2 EQ 0 THEN NA ELSE X.2,
   REX_USA   =COMPACT(1/IRL_M_EA571200,0,1),
   REX_GER   =COMPACT(GER_M_EA571200/IRL_M_EA571200,0,1),
   REX_UK    =COMPACT( UK_M_EA571200/IRL_M_EA571200,0,1),
   QGIMT_EC_CUR=QGIMT_EC/(QGIMT_EC+QGIMT_EC(-1)+QGIMT_EC(-2)+
                        QGIMT_EC(-3))*4,
   QWIMD=EXP(0.607*LOG(FDWQGIMD/VALUE(FDWQGIMD,&1))+
             0.171*LOG(QGIMT_UK/VALUE(QGIMT_UK,&1))+
             0.097*LOG(QGIMT_USA/VALUE(QGIMT_USA,&1))+
             0.125*LOG(QGIMT_GER/VALUE(QGIMT_GER,&1))),
   QWIMD_E=(QWIMD+QWIMD(-1)+QWIMD(-2))/3,
   QWIMD_CUR=QWIMD/(QWIMD+QWIMD(-1)+QWIMD(-2)+QWIMD(-3))*4,
   QGA_E=(QGA+QGA(-1)+QGA(-2))/3;
&LINKSER3 X.1 X.2 "QGIMT_OECD"
DO QGIMT_OECD_E=(QGIMT_OECD+QGIMT_OECD(-1)+QGIMT_OECD(-2))/3,
   QGIMT_OECD_CUR=QGIMT_OECD/(QGIMT_OECD+QGIMT_OECD(-1)+QGIMT_OECD(-2)+
                        QGIMT_OECD(-3))*4,
   QGIMH_OECD_CUR=QGIMH_OECD/(QGIMH_OECD+QGIMH_OECD(-1)+QGIMH_OECD(-2)+
                        QGIMH_OECD(-3))*4,
   OSMPF_STAR=(OSMPF+OSMPF(-1)+OSMPF(-2)+OSMPF(-3))/4,
   OSMPF_CUR=OSMPF/OSMPF_STAR,
   OSMDI_STAR=(OSMDI+OSMDI(-1)+OSMDI(-2)+OSMDI(-3))/4,
   OSMDI_CUR=OSMDI/OSMDI_STAR,
   OSMPF_CUR_MEAN=MEAN(OSMPF_CUR),
   OSMPF_CUR_MEAN=EXPAND(OSMPF_CUR_MEAN,40,1,1970),
   OSMDI_CUR_MEAN=MEAN(OSMDI_CUR),
   OSMDI_CUR_MEAN=EXPAND(OSMDI_CUR_MEAN,40,1,1970),
   T70=YEAR(TYEAR)-1969,
   D79=IF YEAR(TYEAR) GT 1978 THEN 1 ELSE 0;
DELETE DATA X.1 X.2;
```

11 The Output Data

The output data are generated using the macro DBMAIN3. There is no source for value-added data for each of the disaggregated manufacturing sectors. CIP data on net output is used instead. Data for the services sectors, on the other hand, are only available in value-added terms.

The macro DBSUB3 is used to link "new" CIP gross output data from the CSO databank (file AIAA) to the "old" CIP gross output data. The volume production indices for each industrial sector are extended using production indices from the CSO databank (file MIAA) by the macro DBSUB4. Then the net output series are temporarily extrapolated forward using DBSUB5. The macro WINDEX is used to create a Linked Fisher Index for the volume of production indices for the utilities, hi-tech and food sectors using net output figures as weights. The volume production indices are used to generate constant price data on gross output for the industrial sectors. Oil refineries inputs are added to the gross output of the utilities sector and netted out of the traditional sector's output.

Value-added data for the services sectors, the agricultural sector, the utilities sector and the building sector are obtained from the *NIE*, the CSO and the *ESA* accounts. The constant price data are unpublished data from the CSO for the building, utilities and services sectors. (denoted _CSO)

The macro DBSUB1 generates labour productivity indices.

```
DBMAIN3 -

&*THIS MACRO GENERATES THE OUTPUT DATA. ADDITIONAL VARIABLES TO BE INPUT
&* FROM OLD CIP UP TO 1973 (SUFFIX _OC):
&* QGIMTV QGIMQV QGIMFV QGIMDTV QGIMTXV QGIMCFV QGIMCHV QGIMGLV QGIMMMV
&* QGIMWDV QGIMPPV QGIMOTV
&* QMIMTV QMIMQV QMIMFV QMIMDTV QMIMTXV QMIMCFV QMIMCHV QMIMGLV QMIMMMV
&* QMIMWDV QMIMPPV QMIMOTV
&* QIMT    QIMQ   QIMF   QIMDT   QIMTX   QIMCF   QIMCH QIMGL QIMMM
&* QIMWD   QIMPP  QIMOT  QIM
&* M333    : IMPORTS OF CRUDE OIL, TONNES, FOR FULL PERIOD.
&* M333V   : IMPORTS OF CRUDE OIL, $M, UP TO 1973.
&* ONLY TO 1973: QIUE_OC QIUG_OC QIUW_OC QGIUV_OC
&* ONLY FROM 1973: QIU_NC
&* SERIES NEEDED 1970 TO LATEST YEAR AVAILABLE FROM CSO (SUFFIX _CSO):
&* OIB OIU OIMT OSMTR OSMCO OSMDI OSMFI
&* SERIES NEEDED UP TO AT LEAST 1973:QNIUEV QNIUGV QNIUWV.
&* FILES  FROM THE CSO DATABANK:
&* AIAA  MIAA
&* SERIES WHICH APPEARED PREVIOUSLY UNDER A DIFFERENT NAME:
&* QNELECV QNGASV  QNWATV  QELEC   QGAS    QWAT
&* NOW CALLED
&* QNIUEV  QNIUGV  QNIUWV  QIUE    QIUG    QIUW
&ERROR &IGNORE
&GET &1"BASE YEAR FOR INDICES :" &END
&DBSUB3
    AIAA002 QGIMTV  AIAA004 QGIMMQV AIAA049 QGIMFV  AIAA061 QGIMDTV
    AIAA083 QGIMWDV AIAA067 QGIMTXV AIAA074 QGIMCFV AIAA089 QGIMPPV
    AIAA016 QGIMCHV AIAA012 QGIMGLV AIAA023 QGIMMMV AIAA092 QGIMOTV
    ;
&DBSUB3
    AIAA152 QMIMTV  AIAA154 QMIMMQV AIAA199 QMIMFV  AIAA211 QMIMDTV
    AIAA233 QMIMWDV AIAA217 QMIMTXV AIAA224 QMIMCFV AIAA239 QMIMPPV
```

```
        AIAA166 QMIMCHV AIAA162 QMIMGLV AIAA173 QMIMMMV AIAA242 QMIMOTV
        ;
&DBSUB3
    AIAA310 QNIUEV  AIAA309 QNIUGV  AIAA311 QNIUWV AIAA008 QGIUV ;
&* REFINERIES ADJUSTMENT
&* ..................................
DO QGIMREFV=AIAA093,
    QMIMREFV=AIAA243,
    QNIMREFV=QGIMREFV-QMIMREFV;
&LINKSER3 QMIMREFV M333V QMIMREFV
&LINKSER3 "(QIREF_NC)" "M333"    QIREF
DO QGIMHV=QGIMCHV+QGIMMMV,
    QGIMDV=QGIMTXV+QGIMCFV+QGIMWDV+QGIMPPV+QGIMGLV+QGIMOTV+QGIMDTV+
            QGIMMQV-QMIMREFV,
    QMIMHV=QMIMCHV+QMIMMMV,
    QMIMDV=QMIMTXV+QMIMCFV+QMIMWDV+QMIMPPV+QMIMGLV+QMIMOTV+QMIMDTV+
            QMIMMQV-QMIMREFV,
    QMIMV=QMIMHV+QMIMFV+QMIMDV,
&* ...............................
    QNIMMQV=QGIMMQV-QMIMMQV,
    QNIMFV=QGIMFV-QMIMFV,
    QNIMDTV=QGIMDTV-QMIMDTV,
    QNIMWDV=QGIMWDV-QMIMWDV,
    QNIMPPV=QGIMPPV-QMIMPPV,
    QNIMTXV=QGIMTXV-QMIMTXV,
    QNIMCFV=QGIMCFV-QMIMCFV,
    QNIMCHV=QGIMCHV-QMIMCHV,
    QNIMGLV=QGIMGLV-QMIMGLV,
    QNIMMMV=QGIMMMV-QMIMMMV,
    QNIMOTV=QGIMOTV-QMIMOTV,
    QNIMHV=QNIMCHV+QNIMMMV,
    QNIMDV=QNIMTXV+QNIMCFV+QNIMWDV+QNIMPPV+QNIMGLV+QNIMOTV+QNIMDTV+
            QNIMMQV,
    QNIUV = QNIUEV+QNIUGV+QNIUWV,
    QGIUV   =QGIUV+QMIMREFV,
    QGIBV   =B1501+B1502+B1503,
    QGIMTV  =QGIMHV+QGIMDV+QGIMFV,
    QMIUV   =QGIUV-QNIUV,
    QMIMTV  =QMIMHV+QMIMDV+QMIMFV,
    QNIBV   =C03A53,
    QMIBV   =QGIBV-QNIBV,
    QNIMTV  =QNIMHV+QNIMDV+QNIMFV,
    QGIMV   =QGIMTV-QGIMMQV,
    QMIMV   =QMIMTV-QMIMMQV,
    QNIMV   =QNIMTV-QNIMMQV;
&DBSUB4 &1
    MIAA029 QIMCF MIAA002 QIMCH MIAA022 QIMDT MIAA015 QIMF
    MIAA001 QIMGL MIAA006 QIMMM MIAA053 QIMT  MIAA051 QIM
    MIAA037 QIMOT MIAA034 QIMPP MIAA025 QIMTX MIAA033 QIMWD
    MIAA052 QIMMQ ;
&DBSUB5 2
        QNIUV QNIMREFV QNIMCHV QNIMMMV QNIMTXV
        QNIMCFV QNIMWDV QNIMPPV QNIMGLV QNIMOTV QNIMDTV QNIMMQV ;
&WINDEX  "QIU_XX"  1973 1 F
        "QIUE_OC"   "QIUG_OC"   "QIUW_OC"  ;
        QNIUEV      QNIUGV      QNIUWV
&WINDEX QIMH &1    1 F QIMCH QIMMM ;
        "QNIMCHV_X"   "QNIMMMV_X"
&WINDEX QIMD &1    1 F QIMTX QIMCF QIMWD QIMPP QIMGL QIMOT QIMDT QIMMQ ;
    "QNIMTXV_X"    "QNIMCFV_X"   "QNIMWDV_X"   "QNIMPPV_X"    "QNIMGLV_X"
    "QNIMOTV_X"    "QNIMDTV_X"   "QNIMMQV_X"
&LINKSER3 "(QIU_NC)" "(QIU_XX)" "(QIU_X)"
&LINKSER3 QIREF MIAA038 QIREF
&LINKSER3 "(QIU_X)" MIAA061 "(QIU_X)"
```

```
&* •••••••••••••••••••••••••••••••••••
&* REFINERIES ADJUSTMENT
&* •••••••••••••••••••••••••••••••••••
DO QNIMREFV_X=IF YEAR(QNIUV_X) LT 1973 THEN
             QNIUV_X*VALUE(QNIMREFV/QNIUV,1973) ELSE
             OVERLAY(QNIMREFV_X,QNIUV_X*0);
&WINDEX QIU &1 1 F  "QIU_X"  QIREF ;  "QNIUV_X"   "QNIMREFV_X"
&* •••••••••••••••••••••••••••••••••••
DO QGIMH=VALUE(QGIMHV,&1  )*QIMH,
   QGIMD=VALUE(QGIMDV,&1  )*QIMD,
   QGIMF=VALUE(QGIMFV,&1  )*QIMF,
   QGIMT=QGIMH+QGIMD+QGIMF,
   QGIB=B1701+B1702+B1703,
   QGIU=QIU*VALUE(QGIUV/QIU,&1),
   PQGIMH=QGIMHV/QIMH*VALUE(QIMH/QGIMHV,&1),
   PQGIMD=QGIMDV/QIMD*VALUE(QIMD/QGIMDV,&1),
   PQGIMF=QGIMFV/QIMF*VALUE(QIMF/QGIMFV,&1),
   PQGIMT=QGIMTV/QGIMT*VALUE(QGIMT/QGIMTV,&1),
   PQGIU =QGIUV /QIU *VALUE(QIU /QGIUV ,&1),
   PQGIB =QGIBV/QGIB*VALUE(QGIB/QGIBV,&1),
   QGIB_CURA=QGIB/((QGIB*QGIB(-1)*QGIB(-2)*QGIB(-3)*QGIB(-4)*QGIB(-5))
                  **(1/6)),
   OIV=B0302,
   OAGV =B0301,
   OSNPV=B0304,
   OSMDTV=B0303,
   OSMFIV=C03A69A,
   OSNHEV=C03A86-OSNPV,
   OSMTCV=C03A6165+C03A67,
   OSOV=B0303+B0305,
   OIUV=C03A06,
   OIBV=C03A53,
   OIMTV=OIV-OIUV-OIBV,
   OSMDIV=B0303-OSMTCV,
   OAG =B0401,
   OI=B0402,
   OSNP=B0404,
   OSMDT=B0403,
   OSO=B0403+B0405,
   OIB=OIB_CSO*VALUE(OIBV/OIB_CSO,&1),
   OIU=OIU_CSO*VALUE(OIUV/OIU_CSO,&1),
   OIMT=OIMT_CSO*VALUE(OIMTV/OIMT_CSO,&1),
   OSMTC=OSMTR_CSO+OSMCO_CSO,
   OSMTC=OSMTC*VALUE(OSMTCV/OSMTC,&1),
   OSMDI=OSMDI_CSO,
   OSMDI=OSMDI*VALUE(OSMDIV/OSMDI,&1),
   OSMFI=OSMFI_CSO,
   OSMFI=OSMFI*VALUE(OSMFIV/OSMFI,&1),
   OSNHE=LSNHE*VALUE(OSNHEV/LSNHE,&1);
   &LINKSER3 OIB "(B1701+B1702+B1703)" OIB
   &LINKSER3 OIU QIU OIU
   &LINKSER3 OIMT QIMT OIMT
   &LINKSER3 OSMTC B0403 OSMTC
   &LINKSER3 OSMTCV B0303 OSMTCV
   &LINKSER3 OSMDI B0403 OSMDI
   &LINKSER3 OSMDIV B0303 OSMDIV
   &LINKSER3 OSNHE LSNHE OSNHE
   &LINKSER3 OIUV QNIUV OIUV
   &LINKSER3 OIMTV QNIMTV OIMTV
   &LINKSER3 OSNHEV "(LSNHE*OSNPV/LSNP)" OSNHEV
 DO OIMT=OI-OIB-OIU,
   OSMPF=B0405-OSNHE,
   OSMPFV=B0305-OSNHEV,
   OSMDIV=OSMDTV-OSMTCV,
```

```
     OIBV =OIV-OIUV-OIMTV;
     &LINKSER3 OSMFI OSMPF OSMFI
     &LINKSER3 OSMFIV OSMPFV OSMFIV
DO OSMPS=OSMPF-OSMFI,
     OSMPSV=OSMPFV-OSMFIV,
     OI_DIS=OI-OIMT-OIU-OIB,
     OIMT_DIS=OIMT-OIMT_CSO*VALUE(OIMTV/OIMT_CSO,1985),
     OIMTV_DIS=OIMTV-C03A0648+C03A06,
     OSMDT_DIS=B0403-OSMDI-OSMTC,
     OSMDIV_DIS=OSMDIV-C03A56,
     OSMPSV_DIS=OSMPSV-C03A59-C03A74,
     OSMV=B0303+B0305-OSNHEV,
     OSNV=OSNHEV+OSNPV,
     OSM=B0403+B0405-OSNHE,
     OSN=OSNHE+OSNP,
     POSO=OSOV/OSO,
     POSNP=OSNPV/OSNP,
     POSNHE=OSNHEV/OSNHE;
     &DBSUB1 A I IMT IU IB SM SMDI SMTC SMPF SMFI SMPS SMDT ;
DO EOPRI=OPRI,
     EOPRSM=OPRSM;
DELETE DATA ******** X*;
LINKD DATA OIMT OIT  OSNP OPA PQGIMT PQGIT QNIUEV QNELECV
        QNIUGV QNGASV QNIUWV QNWATV
          OSNPV OPAV OSNHE OSHE OSNHEV OSHEV  PQGIMT PQTI;


DBSUB1 -

&* THIS MACRO GENERATES THE PRODUCTIVITY INDICES
&LABEL1:
&GET &1"NAME OF SECTOR (E.G. IMT) OR ';' :"                    &END
&IF &1 CEQ ; &RETURN &IFEND
DO OPR&1=O&1/L&1,
   PO&1=O&1V/O&1;
&GOTO LABEL1


DBSUB3 -

&* THIS MACRO LINKS SERIES TAKEN FROM THE CSO DATABANK CIP FILE TO
&* INPUT SERIES FROM THE OLD CIP FILE TO PRODUCE A SINGLE LINKED SERIES
&LABEL1:
&GET &1"NAME OF SERIES IN CSO CIP FILE (E.G. AIAA002) OR ';' :" &END
&IF &1 CEQ ; &RETURN &IFEND
&GET &2"NAME OF OUTPUT SERIES :" &END
&LINKSER3 &1 "&2_OC" &2
&GOTO LABEL1


DBSUB4 -

&* THIS MACRO LINKS OUTPUT SERIES FROM THE CIP, LINKS THEM, AND EXTENDS
&* THEM USING THE MONTHLY OUTPUT SERIES TO PRODUCE A LINKED SERIES.
&GET &3"BASE YEAR FOR INDICES :" &END
&LABEL1:
&GET &1"NAME OF OUTPUT SERIES IN CSO DATABANK (E.G.MIAA015) :"  &END
&IF &1 CEQ ; &RETURN &IFEND
&GET &2"NAME OF OUTPUT SERIES :" &END
&LINKSER3 "&2_NC" "&2_OC" &2
&LINKSER3 &2 &1    &2
DO &2=&2/VALUE(&2,&3);
&GOTO LABEL1


DBSUB5 -
```

```
&* THIS MACRO EXTENDS THE NET OUTPUT SERIES FORWARD TEMPORARILY SO THEY
&* CAN BE USED AS WEIGHTS TO PRODUCE A VOLUME OF OUTPUT SERIES.
&GET &2"NUMBER OF PERIODS TO PROJECT FORWARD :" &END
&LABEL1:
&GET &1"NAME OF VALUE OF NET OUTPUT SERIES OR ';' : "          &END
&IF &1 CEQ ; &RETURN &IFEND
DO &1_X=EXTRAP(&1,&2,1);
&GOTO LABEL1
```

12 The Wage Bill Data

The wage bill data for the services sectors are taken from the *ESA* accounts. The manufacturing sector's wage bill data from the CIP do not include PRSI contributions, therefore the data for these sectors are scaled up (based on each sector's share of the total manufacturing wage bill) to match the overall manufacturing sector's total wage bill as defined in the *ESA*. Wage rates are also calculated and some social insurance data. The sub macro DBSUB2 generates unit labour costs, wage rates and profits. The macro that generates these data - DBMAIN5 - is listed below.

```
DBMAIN5 -

&* THIS MACRO GENERATES THE WAGE BILL DATA.NEW SERIES NEEDED ARE:
&* FROM CSO DATABANK: FILE AIAA
&* THIS MACRO ALSO GENERATES THE GOVERNMENT SOCIAL INSURANCE DATA.
&* DATA REQUIRED ARE:GTYSFR
&* THIS MACRO GENERATES THE WAGE BILL AND RATE DATA FOR THE
&* DISAGGREGATED INDUSTRIAL SECTOR.
&* IT TAKES AS INPUT FROM THE OLD CIP WITH SUFFIX _OC:
&* YWIMMQ YWIMF  YWIMDT YWIMWD YWIMTX YWIMCF YWIMPP YWIMCH YWIMGL YWIMMM
&* YWIMOT YWIMREF YWIMRUB YWIU
&* YWIU_OC: PREVIOUSLY CALLED YWIU1
&ERROR &IGNORE
&GET &1"BASE YEAR FOR PRICES :" &END
DO YWI=B0203,
   YWSO=B0205+B0208,
   YWSNP=B0207,
   YWSMDT=B0205,
   YWAG =B0201,
   YWNA=YWI+YWSO+YWSNP,
   YWIB=C03B53,
   YWSMDI=C03B56,
   YWSMFI=C03B69A,
   YWSNHE=C03B86-YWSNP;
&LINKSER3 YWSMDI "(LSMDI*YWSMDT/LSMDT)" YWSMDI
&LINKSER3 YWSNHE "(LSNHE*YWSNP/LSNP)"   YWSNHE
&LINKSER3 YWIB   "(LIB *YWI/LI)"        YWIB
DO
   YWSMTC=YWSMDT-YWSMDI,
   YWSMPF=B0208-YWSNHE,
   YWSM=YWSMDT+YWSMPF;
&LINKSER3 YWSMFI "(LSMFI*YWSMPF/LSMPF)" YWSMFI
DO YWSMPS=YWSMPF-YWSMFI,
&* THIS SECTION DEALS WITH PAYROLL TAXES WHICH ARE INCLUDED IN WAGE BILL
   GTYSL=B2209+B2210+B2212,
   GTYS=B2212,
   GTYIY=B2209+B2210,
   GTYSAV=GTYSL-GTYSFR,
   GTYSE=B0113,
```

```
    GTYSP=GTYSL-GTYSE,
    RGTYSE=GTYSE/(YWSM+YWI),
    RGTYSP=GTYSP/(YWSM+YWI),
    RGTYSL=RGTYSE+RGTYSP,
    WK1=GTYSE/GTYSL;
&* DISAGGREGATE INDUSTRIAL SECTOR WAGES
&* ...............................................................
&DBSUB3
                AIAA454 YWIMMQ   AIAA499 YWIMF   AIAA511 YWIMDT
    AIAA533 YWIMWD  AIAA517 YWIMTX   AIAA524 YWIMCF  AIAA539 YWIMPP
    AIAA466 YWIMCH  AIAA462 YWIMGL   AIAA473 YWIMMM  AIAA542 YWIMOT
                                 AIAA458 YWIU     ;

&* ADJUST FOR REFINERIES    ?
&* ...............................................................
DO YWIU_NC=YWIU,
    YWIMH_NC=YWIMCH+YWIMMM,
    YWIMD_NC=YWIMMQ+YWIMDT+YWIMWD+YWIMTX+YWIMCF+YWIMPP+YWIMGL+YWIMOT,
    YWIMF_NC=YWIMF,
    YWIMT_NC=YWIMH_NC+YWIMD_NC+YWIMF_NC;
&LINKSER3 C03B30 "(YWIMT_NC/(1-RGTYSE))" YWIMT
&LINKSER3 C03B06 "(YWIU_NC /(1-RGTYSE))" YWIU
DO
    YWIMT_X=YWIMT/YWIMT_NC,
    YWIMH=YWIMH_NC*YWIMT_X,
    YWIMF=YWIMF_NC*YWIMT_X,
    YWIMD=YWIMD_NC*YWIMT_X,
    WIMH  =YWIMH/LIMH,
    WIMD  =YWIMD/LIMD,
    WIMF  =YWIMF/LIMF,
    WNA   =YWNA/LNA,
    YCIMH_NC=QNIMHV-YWIMH,
    YCIMF_NC=QNIMFV-YWIMF,
    YCIMD_NC=QNIMDV-YWIMD;
&DBSUB2 IMT IU IB SMDI SMTC SMPF SNHE SNP I SM SO SMPS SMFI SMDT ;
DO
    DEPAG=B0216,
    DEPI=B0217,
    DEPS=B0218+B0219,
    DEP=DEPAG+DEPI+DEPS,
    YAG =B0102+B0103+B0104+B0111,
    YCIN=YCI-DEPI,
    YCSON=YCSO-DEPS,
    YC=YCIN+YCSON+YASA,
    YWIMT_DIS=YWIMT-YWIMT_NC,
    YWIU_DIS =YWIU -YWIU_NC,
    YWIMT_DIS=YWIMT-YWIMF-YWIMD-YWIMH,
    YWI_DIS=YWI-YWIB-YWIU-YWIMT,
    YWSMDT_DIS=YWSMDT-YWSMDI-C03B61-C03B63-C03B65-C03B67,
    YWSMPF_DIS=YWSMPF-C03B59-C03B69A-C03B74,
    KYSEAG=1-YWAG /YAG ,
    YSEAG=KYSEAG*YAG ,
    YCU=B0906,
    YAFS=-B0114,
    YRAFS=-B0406,
    PYAFS=YAFS/YRAFS,
    WI_DOT =DEL(WI  )/  WI(-1)*100.,
    WNA_DOT =DEL( WNA)/  WNA(-1)*100.,
    WSM_DOT =DEL(  WSM)/  WSM(-1)*100.,
    EWI_DOT =(WI_DOT (-1)+WI_DOT (-2)+WI_DOT (-3))/3.0,
    EWSM_DOT=(WSM_DOT (-1)+WSM_DOT (-2)+WSM_DOT (-3))/3.0,
    KYCSNHE=YCSNHE/OSNHEV,
    WAIMP  =YAG/LAG,
    RAW=WAIMP/WNA,
    ERAW=(RAW(-1)+RAW(-2))/2.0,
```

```
RYCSM=POSM/UCLSM,
UCLI_DOT=DEL(UCLI)/UCLI(-1)*100,
KDIRT=UNITY,
EDIRT=UNITY;
LINKD DATA YWSNP YWPA YWSNP GCGWV  YWSNHE YWSHE WAIMP AAEAGIMP
   WI AAEI WI_DOT AAEIDOT WNA AAENA WNA_DOT AAENADOT WSNP AAEPA
   WSNHE AAESHE WSM AAESM WSM_DOT AAESMDOT WSO AAESO UCLI_DOT UCLIDOT
   YCSNHE YCSHE  ;
DELETE DATA ********_X;


DBSUB2 -
&* THIS MACRO GENERATES THE UNIT LABOUR COSTS, PROFITS, WAGE RATES,
&* PRICES
&LABEL1:
&GET &1"NAME OF SECTOR (E.G. IMT) OR ';' :"              &END
&IF &1 CEQ ; &RETURN &IFEND
DO YC&1=O&1V-YW&1,
   W&1=YW&1/L&1,
   UCL&1=YW&1/O&1;
&GOTO LABEL1
```

13 References

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Appendix 1: Input Series

C03A06	ESA:GROSS VALUE ADDED AT FACTOR COST:FUEL AND POWER PRODUCTS (DATA NOT AVAILABLE FROM 1981 ONWARDS)........$M,CUR-RENT PRICES
C03B06	ESA:COMPENSATION OF EMPLOYEES BY BRANCH:FUEL AND POWER PRODUCTS ....$M,CURRENT PRICES
IIMBMV_OE	TOTAL INVESTMENT BY KIND OF ACTIVITY OF OWNER:MANUFACTURING, BASIC METAL INDUSTRIES CURRENT PRICES (#M) SOURCE:OECD DATA FROM CSO
IIMBM75_OE	IIMBMV AT CONSTANT (1975) PRICES
IIMBM80_OE	IIMBMV AT CONSTANT (1980) PRICES
IIMBM85_OE	IIMBMV AT CONSTANT (1985) PRICES
IIMCF_B	E.HENRY CLOTH.BUILD. 50 YRS. 50
IIMCF_P	E.HENRY CLOTHING ETC. PLANT 20 YRS. 20
IIMCF_V	E.HENRY CLOTH.VEH.+OTHER 10 YRS. 10
IIMCH_B	E.HENRY CHEM.BUILDS.50 YRS. 50
IIMCH_P	E.HENRY CHEMICALS PLANT 18 YRS. 18
IIMCH_V	E.HENRY CHEM. VEH.+OTHER 10 YRS. 10
IIMCHV_OC	INVESTMENT IN MANUFACTURING,CHEMICALS $ MILLION SOURCE: CIP OLD
IIMCHV_OE	TOTAL INVESTMENT BY KIND OF ACTIVITY OF OWNER:MANUFACTURING, CHEMICALS AND CHEMICAL PETROLEUM, COAL RUBBER AND PLASTIC PRODUCTS CURRENT PRICES (#M) SOURCE:OECD DATA FROM CSO
IIMCH75_OE	IIMCHV AT CONSTANT (1975) PRICES
IIMCH80_OE	IIMCHV AT CONSTANT (1980) PRICES
IIMCH85_OE	IIMCHV AT CONSTANT (1985) PRICES
IIMCLV_OE	TOTAL INVESTMENT BY KIND OF ACTIVITY OF OWNER:MANUFACTURING, TEXTILE, WEARING APPAREL AND LEATHER INDUSTRIES CURRENT PRICES (#M) SOURCE:OECD DATA FROM CSO
IIMCL75_OE	IIMCLV AT CONSTANT (1975) PRICES
IIMCL80_OE	IIMCLV AT CONSTANT (1980) PRICES
IIMCL85_OE	IIMCLV AT CONSTANT (1985) PRICES
IIMDT_B	E.HENRY DRINK+TOB.BUILD. 50 YRS. 50
IIMDT_P	E.HENRY DRINK+TOB.PLANT 20 YRS. 20
IIMDT_V	E.HENRY DRINK+TOB.VEH+OTHER,10 YR. 10
IIMF_B	E.HENRY FOOD BUILD.50YRS. 50
IIMF_P	FOOD PLANT 1951-85,20 YRS. AV.LIFE,IGNORE 1985 RESULTS 20
IIMF_V	E.HENRY FOOD VEH.+OTHER,10 YRS.AV.LIFE 10
IIMFBFV_OC	INVESTMENT IN MANUFACTURING,FOOD - BACON FACTORIES $ MILLION SOURCE:CIP OLD
IIMFDV_OE	TOTAL INVESTMENT BY KIND OF ACTIVITY OF OWNER:MANUFACTURING, FOOD,BEVERAGES AND TOBACCO, CURRENT PRICES (#M) SOUR-CE:OECD DATA FROM CSO
IIMFDYV_OC	INVESTMENT IN MANUFACTURING,FOOD - CREAMERY BUTTER, CHEESE, CONDENSED MILK, CHOCOLATE CRUMB, ICE CREAM AND OTHER EDIBLE PRODUCTS $ MILLION SOURCE:CIP OLD
IIMFD75_OE	IIMFDV AT CONSTANT (1975) PRICES

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IIMFD80_OE    IIMFDV_OE AT CONSTANT (1980) PRICES

IIMFD85_OE    IIMFDV_OE AT CONSTANT (1985) PRICES

IIMFMTV_OC    INVESTMENT IN MANUFACTURING,FOOD - SLAUGHTERING, PREPARATION AND PRESERVING OF MEAT OTHER THAN BY BACON FACTORIES $
              MILLION SOURCE:CIP OLD

IIMFMV_OE     TOTAL INVESTMENT BY KIND OF ACTIVITY OF OWNER:MANUFACTURING, FABRICATED METAL PRODUCTS, MACHINERY AND EQUIPMENT
              CURRENT PRICES (#M) SOURCE:OECD DATA FROM CSO

IIMFM75_OE    IIMFMV AT CONSTANT (1975) PRICES

IIMFM80_OE    IIMFMV AT CONSTANT (1980) PRICES

IIMFM85_OE    IIMFMV AT CONSTANT (1985) PRICES

IIMFV_NC      INVESTMENT IN MANUFACTURING,FOOD $ MILLION SOURCE: CIP NEW

IIMFV_OC      INVESTMENT IN MANUFACTURING,FOOD $ MILLION SOURCE: CIP OLD

IIMF412V_NC   INVESTMENT IN MANUFACTURING,FOOD NACE 412 $ MILLION SOURCE:CIP NEW

IIMF413V_NC   INVESTMENT IN MANUFACTURING,FOOD NACE 413 $ MILLION SOURCE:CIP NEW

IIMGL_B       E.HENRY CLAY.ETC.BUILDS. 50 YRS. 50

IIMGL_P       E.HENRY CLAY,CEMENT,GLASS PLANT 16 YRS. 16

IIMGL_V       E.HENRY CLAY ETC.VEH.+OTHER 10 YRS. 10

IIMGLV_OE     TOTAL INVESTMENT BY KIND OF ACTIVITY OF OWNER:MANUFACTURING, NON-METALLIC MINERAL PRODUCTS EXCEPT PRODUCTS OF PETRO-
              LEUM AND OIL CURRENT PRICES (#M) SOURCE:OECD DATA FROM CSO

IIMGL75_OE    IIMGLV AT CONSTANT (1975) PRICES

IIMGL80_OE    IIMGLV AT CONSTANT (1980) PRICES

IIMGL85_OE    IIMGLV AT CONSTANT (1985) PRICES

IIMMM_B       E.HENRY ENGINEER.BUILDS. 50 YRS. 50

IIMMM_P       E.HENRY ENGINEERING PLANT 20 YRS. 20

IIMMM_V       E.HENRY ENGINEER.VEH.+OTHER 10 YRS. 10

IIMMMV_OC     INVESTMENT IN MANUFACTURING,METALS AND ENGINEERING $ MILLION SOURCE:CIP OLD

IIMMQ_B       E.HENRY MINING BUILDS. 60 YRS 60

IIMMQ_P       E.HENRY MINING PLANT 1950-84 30 YRS.AV LIFE 30

IIMMQ_V       E.HENRY MINING VEH. 10 YRS 10

IIMMQV_OC     INVESTMENT IN MANUFACTURING,MINING AND QUARRYING $ MILLION SOURCE:CIP OLD

IIMMQV_OE     TOTAL INVESTMENT BY KIND OF ACTIVITY OF OWNER: MINING AND QUARRYING CURRENT PRICES (#M) SOURCE:OECD DATA FROM CSO

IIMMQ75_OE    IIMMQV AT CONSTANT (1975) PRICES

IIMMQ80_OE    IIMMQV AT CONSTANT (1980) PRICES

IIMMQ85_OE    IIMMQV AT CONSTANT (1985) PRICES

IIMOT_B       E.HENRY OTHER MANUFAC.BUILDS. 50 YRS. 50

IIMOT_P       E.HENRY OTHER MANUFACT. PLANT 20 YRS. 20

IIMOT_V       E.HENRY OTHER MANUF.VEH.+OTHER 10 YRS. 10

IIMPP_B       E.HENRY PAPER ETC. BUILDS. 50 YRS. 50

IIMPP_P       E.HENRY PAPER +PRINTING PLANT 20 YRS. 20

IIMPP_V       E.HENRY PAPER ETC. VEH.+OTHER,10 YRS. 10

IIMPPV_OE     TOTAL INVESTMENT BY KIND OF ACTIVITY OF OWNER:MANUFACTURING, PAPER AND PAPER PRODUCTS,PRINTING AND PUBLISHING CUR-
```

	RENT PRICES (#M) SOURCE:OECD DATA FROM CSO
IIMPP75_OE	IIMPPV AT CONSTANT (1975) PRICES
IIMPP80_OE	IIMPPV AT CONSTANT (1980) PRICES
IIMPP85_OE	IIMPPV AT CONSTANT (1985) PRICES
IIMTV_OC	INVESTMENT IN MANUFACTURING,TRANSPORTABLE GOODS INDUSTRIES $ MILLION SOURCE:CIP OLD
IIMTX_B	E.HENRY TEXT.BUILD.50 YRS. 50
IIMTX_P	E.HENRY TEXTILES PLANT 20 YRS. 20
IIMTX_V	E.HENRY TEXT.VEH.+OTHER 10YRS. 10
IIMWD_B	E.HENRY WOOD ETC. BUILD.50 YRS. 50
IIMWD_P	E.HENRY WOOD+FURN.PLANT 20 YRS. 20
IIMWD_V	E.HENRY WOOD ETC.VEH.+OTHER 10 YRS. 10
IIMWDV_OE	TOTAL INVESTMENT BY KIND OF ACTIVITY OF OWNER:MANUFACTURING, WOOD,AND WOOD PRODUCTS, INCLUDING FURNITURE CURRENT PRICES (#M) SOURCE:OECD DATA FROM CSO
IIMWD75_OE	IIMWDV AT CONSTANT (1975) PRICES
IIMWD80_OE	IIMWDV AT CONSTANT (1980) PRICES
IIMWD85_OE	IIMWDV AT CONSTANT (1985) PRICES
ISNHV_OE	TOTAL INVESTMENT BY KIND OF ACTIVITY OF OWNER:SERVICES, MEDICAL, DENTAL, OTHER HEALTH AND VETERINARY SERVICES CURRENT PRICES (#M) SOURCE:OECD DATA FROM CSO
ISNH75_OE	ISNHV AT CONSTANT (1975) PRICES
ISNH80_OE	ISNHV AT CONSTANT (1980) PRICES
ISNH85_OE	ISNHV AT CONSTANT (1985) PRICES
LAFISH_LF	EMPLOYMENT IN FISHING, ('000S) - SOURCE:CSO CENSUS OF POPULATION
LAFOR_LF	EMPLOYMENT IN FORESTRY, (000S) - SOURCE:CSO CENSUS OF POPULATION
LIMCF_OC	EMPLOYMENT IN MANUFACTURING, CLOTHING AND FOOTWEAR 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIMCH_LF	EMPLOYMENT IN MANUF. 000'S, CHEMICAL, RUBBER AND PLASTIC PRODUCTS SOURCE: LABOUR FORCE SURVEYS AND 1981 CENSUS OF POPULATION
LIMCH_OC	EMPLOYMENT IN MANUFACTURING, CHEMICALS AND CHEMICAL PRODUCTS 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIMCL_LF	EMPLOYMENT IN MANUF. 000'S, TEXTILES, CLOTHING, FOOTWEAR AND LEATHER SOURCE: LABOUR FORCE SURVEYS AND 1981 CENSUS OF POPULATION
LIMDT_OC	EMPLOYMENT IN MANUFACTURING, DRINK AND TOBACCO 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIMF_OC	EMPLOYMENT IN MANUFACTURING, FOOD 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIMFBF_OC	EMPLOYMENT IN MANUFACTURING, FOOD - BACON FACTORIES 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIMFD_LF	EMPLOYMENT IN MANUF. 000'S, FOOD BEVERAGES AND TOBACCO SOURCE: LABOUR FORCE SURVEYS AND 1981 CENSUS OF POPULATION
LIMFDY_OC	EMPLOYMENT IN MANUFACTURING, FOOD - CREAMERY BUTTER, CHEESE, CONDENSED MILK, CHOCOLATE CRUMB, ICE CREAM AND OTHER EDIBLE MILK PRODUCTS 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIMFMT_OC	EMPLOYMENT IN MANUFACTURING, FOOD - SLAUGHTERING, PREPARATION AND PRESERVING OF MEAT OTHER THAN BY BACON FACTORIES 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIMGL_LF	EMPLOYMENT IN MANUF. 000'S, GLASS, POTTERY AND CEMENT SOURCE: LABOUR FORCE SURVEYS AND 1981 CENSUS OF POPULATION
LIMGL_OC	EMPLOYMENT IN MANUFACTURING, CLAY PRODUCTS,GLASS,CEMENT,ETC. 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIMMM_LF	EMPLOYMENT IN MANUF. 000'S, METALS, METAL PRODUCTS AND MACHINERY (INCL. INSTRUMENT ENGINEERING) SOURCE: LABOUR FORCE

SURVEYS AND 1981 CENSUS OF POPULATION

LIMMM_OC	EMPLOYMENT IN MANUFACTURING, METAL AND ENGINEERING (INCL. VEHICLES) 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIMOT_LF	EMPLOYMENT IN MANUF. 000'S, OTHER MANUF INDUSTRIES (INCL. TRANSPORT EQUIPMENT, EXCL. INSTRUMENT ENGINEERING) SOURCE: LABOUR FORCE SURVEYS AND 1981 CENSUS OF POPULATION
LIMOT_OC	EMPLOYMENT IN MANUFACTURING, OTHER MANUFACTURING (INCL. VEHICLES) 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIMPP_LF	EMPLOYMENT IN MANUF. 000'S, PAPER, PAPER PRODUCTS, PRINTING AND PUBLISHING SOURCE: LABOUR FORCE SURVEYS AND 1981 CENSUS OF POPULATION
LIMPP_OC	EMPLOYMENT IN MANUFACTURING, PAPER AND PRINTING 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIMTX_OC	EMPLOYMENT IN MANUFACTURING, TEXTILES 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIMWD_LF	EMPLOYMENT IN MANUF. 000'S, WOOD AND WOOD PRODUCTS SOURCE: LABOUR FORCE SURVEYS AND 1981 CENSUS OF POPULATION
LIMWD_OC	EMPLOYMENT IN MANUFACTURING, WOOD AND FURNITURE (INCL. BRUSHES AND BROOMS) 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIM44_OC	EMPLOYMENT IN MANUFACTURING, SHIP AND BOAT BUILDING AND REPAIRING 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIM45_OC	EMPLOYMENT IN MANUFACTURING, MANUFACTURE OF RAILROAD EQUIPMENT 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIM46_OC	EMPLOYMENT IN MANUFACTURING, ASSEMBLY, CONSTRUCTION AND REPAIR OF MECHANICALLY PROPELLED ROAD AND LAND VEHICLES 000'S SOURCE: CENSUS OF INDUSTRIAL PRODUCTION
LIREF_OC	EMPLOYMENT IN OIL REFINERIES 000'S SOURCE: J. BRADLEY
LSMDF_LF	EMPLOYMENT IN COMMERCE, INSURANCE AND FINANCE ('000S) SOURCES: CSO TREND OF EMPLOYMENT AND UNEMPLOYMENT 1956-85, CSO LABOUR FORCE ESTIMATES 1985 –
LSMDI_LF	EMPLOYMENT IN COMMERCE - WHOLESALE AND RETAIL DISTRIBUTION ('000S) SOURCES: 1961 1966 1971 1981 CENSUS OF POPULA- TION 1975 1977 1979 1983- CSO LABOUR FORCE SURVEY
LSMFI_LF	EMPLOYMENT IN INSURANCE, FINANCE AND BUSINESS SERVICES ('000S) SOURCES: 1961 1966 1971 1981 CENSUS OF POPULATION 1975 1977 1979 1983- CSO LABOUR FORCE SURVEY
LSMPH_LF	EMPLOYMENT IN OTHER NON-AGRICULTURAL ECONOMIC ACTIVITY ('000S)\SOURCES: CSO TREND OF EMPLOYMENT AND UNEMPLOYMENT 1956-85,\(PROFESSIONAL, PERSONAL AND OTHER SERVICES)\CSO LABOUR FORCE ESTIMATES 1985
LSMTC_LF	EMPLOYMENT IN TRANSPORT COMMUNICATION AND STORAGE SERVICES ('000S) SOURCES: CSO TREND OF EMPLOYMENT AND UNEMPLOYMENT 1956-85, CSO LABOUR FORCE ESTIMATES 1985-
LSNHE	EMPLOYMENT IN HEALTH AND EDUCATION IN '000S SOURCE DEPARTMENT OF FINANCE
LSNP_LF	EMPLOYMENT IN PUBLIC ADMINISTRATION AND DEFENCE ('000S) SOURCES: CSO TREND OF EMPLOYMENT AND UNEMPLOYMENT 1956-85, CSO LABOUR FORCE ESTIMATES 1985-
M333	IMPORTS OF CRUDE OIL (METRIC TONS) SOURCE: TRADE STATISTICS
M333V	IMPORTS OF CRUDE OIL ($000'S) AT CURRENT PRICES SOURCE: TRADE STATISTICS
OIB_CSO	GROSS VALUE ADDED IN BUILDING AT CONSTANT 1985 FACTOR COST, $ MILLION. SOURCE: M. LUCEY, CSO.
OIMT_CSO	GROSS VALUE ADDED IN TRANSPORTABLE GOODS INDUSTRIES AT CONSTANT 1985 FACTOR COST, $ MILLION. SOURCE: M. LUCEY, CSO.
OIU_CSO	GROSS VALUE ADDED IN UTILITIES AT CONSTANT 1985 FACTOR COST, $ MILLION. SOURCE: M. LUCEY, CSO.
OSMCO_CSO	GROSS VALUE ADDED IN COMMUNICATIONS CONSTANT 1985 FACTOR COST, $ MILLION. SOURCE: M. LUCEY, CSO.
OSMDI_CSO	GROSS VALUE ADDED IN DISTRIBUTION AT CONSTANT 1985 FACTOR COST, $ MILLION. SOURCE: M. LUCEY, CSO.
OSMPI_CSO	GROSS VALUE ADDED IN FINANCIAL SERVICES CONSTANT 1985 FACTOR COST. $ MILLION. SOURCE: M. LUCEY, CSO
OSMTR_CSO	GROSS VALUE ADDED IN TRANSPORT AT CONSTANT 1985 FACTOR COST, $ MILLION. SOURCE: M. LUCEY, CSO.
PXIBO	E.HENRY PRICE INFLATOR FOR BUILDING

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PXIMO         E.HENRY PRICE INFLATOR FOR PLANT AND MACHINERY
PXITE         E.HENRY PRICE INFLATOR FOR VEHICLES
QGIMCFV_OC    GROSS OUTPUT ($MILLIONS) CLOTHING AND FOOTWEAR SOURCE: CENSUS OF PRODUCTION
QGIMCHV_OC    GROSS OUTPUT ($MILLIONS) CHEMICALS AND CHEMICAL PRODUCTS SOURCE: CENSUS OF PRODUCTION
QGIMCH1_EC    EC CHEMICALS TOTAL
QGIMCH1_OECD  EC + US CHEMICALS TOTAL
QGIMCH1_USA   US  CHEMICALS TOTAL
QGIMDTV_OC    GROSS OUTPUT ($MILLIONS) DRINK AND TOBACCO SOURCE: CENSUS OF PRODUCTION
QGIMFBFV_OC   GROSS OUTPUT ($MILLIONS) MANUFACTURING FOOD - BACON FACTORIES SOURCE: CIP OLD
QGIMFDYV_OC   GROSS OUTPUT ($MILLIONS) MANUFACTURING FOOD - CREAMERY BUTTER, CHEESE,CONDENSED MILK,CHOCOLATE CRUMB,ICE CREAM AND
              OTHER MILK PRODUCTS SOURCE: CIP OLD
QGIMFMTV_OC   GROSS OUTPUT ($MILLIONS) MANUFACTURING FOOD - SLAUGHTERING, PREPARATION AND PRESERVING OF MEAT OTHER THAN BY BACON
              FACTORIES SOURCE: CIP OLD
QGIMFV_OC     GROSS OUTPUT ($MILLIONS) FOOD SOURCE: CENSUS OF PRODUCTION
QGIMGLV_OC    GROSS OUTPUT ($MILLIONS) CLAY PRODUCTS, GLASS, CEMENT, ETC. SOURCE: CENSUS OF PRODUCTION
QGIMMMV_OC    GROSS OUTPUT ($MILLIONS) METAL AND ENGINEERING SOURCE: CENSUS OF PRODUCTION
QGIMMM1_EC    EC MET.+ENG. TOTAL
QGIMMM1_OECD  EC + US MET.+ENG. TOTAL
QGIMMM1_USA   US  MET.+ENG. TOTAL
QGIMMQV_OC    GROSS OUTPUT ($MILLIONS) MINING AND QUARRYING SOURCE: CENSUS OF PRODUCTION
QGIMOTV_OC    GROSS OUTPUT ($MILLIONS) OTHER MANUFACTURING SOURCE: CENSUS OF PRODUCTION
QGIMPPV_OC    GROSS OUTPUT ($MILLIONS) PAPER AND PRINTING SOURCE: CENSUS OF PRODUCTION
QGIMTV_OC     GROSS OUTPUT ($MILLIONS) TOTAL MANUFACTURING (INCL. MQ) SOURCE: CENSUS OF PRODUCTION
QGIMTXV_OC    GROSS OUTPUT ($MILLIONS) TEXTILES SOURCE: CENSUS OF PRODUCTION
QGIMWDV_OC    GROSS OUTPUT ($MILLIONS) WOOD AND FURNITURE SOURCE: CENSUS OF PRODUCTION
QGIUV_OC      GROSS OUTPUT IN UTILITIES,$ MILLION.SOURCE:CIP
QIM_NC        INDEX OF VOLUME OF IND. PRODUCTION MANUFACTURING TOTAL EXCL. MQ 1980=100 SOURCE: CIP NEW
QIM_OC        INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING , TOTAL EXCL. MQ SOURCE:CIP OLD
QIMCF_NC      INDEX OF VOLUME OF IND. PRODUCTION MANUFACTURING, CLOTHING AND FOOTWEAR 1980=100 SOURCE: CIP NEW
QIMCF_OC      INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING , CLOTHING AND FOOTWEAR SOURCE:CIP OLD
QIMCH_NC      INDEX OF VOLUME OF IND. PRODUCTION MANUFACTURING, CHEMICALS 1980=100 SOURCE: CIP NEW
QIMCH_OC      INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING , CHEMICALS SOURCE:CIP OLD
QIMDT_NC      INDEX OF VOLUME OF IND. PRODUCTION MANUFACTURING, DRINK AND TOBACCO 1980=100 SOURCE: CIP NEW
QIMDT_OC      INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING , DRINK AND TOBACCO SOURCE:CIP OLD
QIMF_NC       INDEX OF VOLUME OF IND. PRODUCTION MANUFACTURING, FOOD 1980=100 SOURCE: CIP NEW
QIMF_OC       INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING , FOOD SOURCE:CIP OLD
QIMFBF_OC     INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING: FOOD - BACON FACTORIES SOURCE:CIP OLD
QIMFDY_OC     INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING: FOOD - CREAMERY BUTTER, CHEESE,CONDENSED MILK, CHOCOLATE
              CRUMB, ICE CEAM AND OTHER EDIBLE MILK PRODUCTS SOURCE:CIP OLD
QIMFMT_OC     INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING: FOOD - SLAUGHTERING, PREPARATION AND PRESERVING OF MEATS
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                 SOURCE:CIP OLD
QIMF412_NC       INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING: FOOD - NACE 412 SOURCE:CIP NEW
QIMF413_NC       INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING: FOOD - NACE 413 SOURCE:CIP NEW
QIMGL_NC         INDEX OF VOLUME OF IND. PRODUCTION MANUFACTURING, NON METALLIC MINERALS 1980=100 SOURCE: CIP NEW
QIMGL_OC         INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING , NON-METALLIC MINERALS SOURCE:CIP OLD
QIMMM_NC         INDEX OF VOLUME OF IND. PRODUCTION MANUFACTURING, METALS AND ENGINEERING 1980=100 SOURCE: CIP NEW
QIMMM_OC         INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING , METALS AND ENGINEERING SOURCE:CIP OLD
QIMMQ_NC         INDEX OF VOLUME OF IND. PRODUCTION MANUFACTURING, MINING AND QUARRYING 1980=100 SOURCE: CIP NEW
QIMMQ_OC         INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING , MINING AND QUARRYING SOURCE:CIP OLD
QIMOT_NC         INDEX OF VOLUME OF IND. PRODUCTION MANUFACTURING, MISC OTHER 1980=100 SOURCE: CIP NEW
QIMOT_OC         INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING , MISC OTHER SOURCE:CIP OLD
QIMPP_NC         INDEX OF VOLUME OF IND. PRODUCTION MANUFACTURING, PAPER AND PRINTING 1980=100 SOURCE: CIP NEW
QIMPP_OC         INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING , PAPER AND PRINTING SOURCE:CIP OLD
QIMRUB_NC        INDEX OF VOLUME OF IND. PRODUCTION MANUFACTURING, PROCESSING OF RUBBER AND PLASTICS 1980=100 SOURCE: CIP NEW
QIMT_NC          INDEX OF VOLUME OF IND. PRODUCTION MANUFACTURING, TRANSPORTABLE GOODS 1980=100 SOURCE: CIP NEW
QIMT_OC          INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING , TRANSPORTABLE GOODS INDUSTRIES SOURCE:CIP OLD
QIMTX_NC         INDEX OF VOLUME OF IND. PRODUCTION MANUFACTURING, TEXTILES 1980=100 SOURCE: CIP NEW
QIMTX_OC         INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING , TEXTILES SOURCE:CIP OLD
QIMWD_NC         INDEX OF VOLUME OF IND. PRODUCTION MANUFACTURING, WOOD AND WOODEN FURNITURE 1980=100 SOURCE: CIP NEW
QIMWD_OC         INDEX OF VOLUME OF IND. PRODUCTION 1980=100 MANUFACTURING , WOOD AND WOODEN FURNITURE SOURCE:CIP OLD
QIREF_NC         INDEX OF VOLUME OF IND. PRODUCTION MANUFACTURING, MINERAL OIL REFINING 1980=100 SOURCE: CIP NEW
QIU_NC           INDEX OF VOLUME OF OUTPUT,UTILITIES. SOURCE: NEW CIP
QIUE_NC          INDEX OF VOLUME OF OUTPUT, ELECTRICITY. SOURCE: CIP NEW
QIUE_OC          INDEX OF VOULME OF OUTPUT, ELECTRICITY. SOURCE: CIP OLD
QIUG_NC          INDEX OF VOLUME OF OUTPUT, GAS. SOURCE: CIP NEW. FILE
QIUG_OC          INDEX OF VOLUME OF OUTPUT, GAS. SOURCE: CIP OLD. FILE
QIUW_NC          INDEX OF VOLUME OF OUTPUT, WATER. SOURCE:CIP NEW
QIUW_OC          INDEX OF VOLUME OF OUTPUT, WATER. SOURCE:CIP OLD
QMIMCFV_OC       MATERIAL INPUTS ($MILLIONS) CLOTHING AND FOOTWEAR SOURCE: CENSUS OF PRODUCTION
QMIMCHV_OC       MATERIAL INPUTS ($MILLIONS) CHEMICALS AND CHEMICAL PRODUCTS SOURCE: CENSUS OF PRODUCTION
QMIMDTV_OC       MATERIAL INPUTS ($MILLIONS) DRINK AND TOBACCO SOURCE: CENSUS OF PRODUCTION
QMIMFBFV_OC      MATERIAL INPUTS ($MILLIONS) MANUFACTURING FOOD - BACON FACTORIES SOURCE: CIP OLD
QMIMFDYV_OC      MATERIAL INPUTS ($MILLIONS) MANUFACTURING FOOD - CREAMERY BUTTER CHEESE,CONDENSED MILK,CHOCOLATE CRUMB,ICE CREAM AND
                 OTHER MILK PRODUCTS SOURCE: CIP OLD
QMIMFMTV_OC      MATERIAL INPUTS ($MILLIONS) MANUFACTURING FOOD - SLAUGHTERING, PREPARATION AND PRESERVING OF MEAT OTHER THAN BY
                 BACON FACTORIES SOURCE: CIP OLD
QMIMFV_OC        MATERIAL INPUTS ($MILLIONS) FOOD SOURCE: CENSUS OF PRODUCTION
QMIMGLV_OC       MATERIAL INPUTS ($MILLIONS) CLAY PRODUCTS, GLASS, CEMENT, ETC. SOURCE: CENSUS OF PRODUCTION
QMIMMMV_OC       MATERIAL INPUTS ($MILLIONS) METAL AND EMGINEERING SOURCE: CENSUS OF PRODUCTION
QMIMMQV_OC       MATERIAL INPUTS ($MILLIONS) MINING AND QUARRYING SOURCE: CENSUS OF PRODUCTION
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QMIMOTV_OC    MATERIAL INPUTS ($MILLIONS) OTHER MANUFACTURING SOURCE: CENSUS OF PRODUCTION
QMIMPPV_OC    MATERIAL INPUTS ($MILLIONS) PAPER AND PRINTING SOURCE: CENSUS OF PRODUCTION
QMIMTV_OC     MATERIAL INPUTS ($MILLIONS) TOTAL MANUFACTURING (INCL. MQ) SOURCE: CENSUS OF PRODUCTION
QMIMTXV_OC    MATERIAL INPUTS ($MILLIONS) TEXTILES SOURCE: CENSUS OF PRODUCTION
QMIMWDV_OC    MATERIAL INPUTS ($MILLIONS) WOOD AND FURNITURE SOURCE: CENSUS OF PRODUCTION
QNIUEV_OC     VALUE OF NET OUTPUT OF ELECTRICITY (NACE GROUP 161) ($M). SOURCE:CSO CENSUS OF IND. PROD. AND CSO ESTIMATES
QNIUGV_OC     VALUE OF NET OUTPUT OF GAS (NACE GROUP 162) ($M). SOURCE:CSO CENSUS OF IND. PROD. AND CSO ESTIMATES
QNIUWV_OC     VALUE OF NET OUTPUT OF WATER WORKS (NACE GROUP 170) ($M). SOURCE:CSO CENSUS OF IND. PROD. AND CSO ESTIMATES
YWIMCF_OC     SALARIES AND WAGES ($MILLIONS) CLOTHING AND FOOTWEAR SOURCE: CENSUS OF PRODUCTION
YWIMCH_OC     SALARIES AND WAGES ($MILLIONS) CHEMICALS AND CHEMICAL PRODUCTS SOURCE: CENSUS OF PRODUCTION
YWIMDT_OC     SALARIES AND WAGES ($MILLIONS) DRINK AND TOBACCO SOURCE: CENSUS OF PRODUCTION
YWIMF_OC      SALARIES AND WAGES ($MILLIONS) FOOD SOURCE: CENSUS OF PRODUCTION
YWIMFBF_OC    SALARIES AND WAGES ($MILLIONS)MANUFACTUR: FOOD - BACON FACTORIES SOURCE: CIP OLD
YWIMFDY_OC    SALARIES AND WAGES ($MILLIONS)MANUFACTUR: FOOD - CREAMERY BUTTER CHEESE,CONDENSED MILK,CHOCOLATE CRUMB,ICE CREAM AND
              OTHER MILK PRODUCTS SOURCE: CIP OLD
YWIMFMT_OC    SALARIES AND WAGES ($MILLIONS)MANUFACTUR: FOOD - SLAUGHTERING, PREPARATION AND PRESERVING OF MEAT OTHER THAN BY
              BACON FACTORIES SOURCE: CIP OLD
YWIMGL_OC     SALARIES AND WAGES ($MILLIONS) CLAY PRODUCTS, GLASS, CEMENT, ETC. SOURCE: CENSUS OF PRODUCTION
YWIMMM_OC     SALARIES AND WAGES ($MILLIONS) METAL AND ENGINEERING SOURCE: CENSUS OF PRODUCTION
YWIMMQ_OC     SALARIES AND WAGES ($MILLIONS) MINING AND QUARRYING SOURCE: CENSUS OF PRODUCTION
YWIMOT_OC     SALARIES AND WAGES ($MILLIONS) OTHER MANUFACTURING SOURCE: CENSUS OF PRODUCTION
YWIMPP_OC     SALARIES AND WAGES ($MILLIONS) PAPER AND PRINTING SOURCE: CENSUS OF PRODUCTION
YWIMT_OC      SALARIES AND WAGES ($MILLIONS) TOTAL MANUFACTURING (INCL. MQ) SOURCE: CENSUS OF PRODUCTION
YWIMTX_OC     SALARIES AND WAGES ($MILLIONS) TEXTILES SOURCE: CENSUS OF PRODUCTION
YWIMWD_OC     SALARIES AND WAGES ($MILLIONS) WOOD AND FURNITURE SOURCE: CENSUS OF PRODUCTION
YWIU_OC       WAGES AND SALARIES IN UTILITIES,$ MILLION.SOURCE:CIP
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Appendix 2: Energy Data Series

EAC20-EAC30   ESB Data - Analysis of consumption by Economic Activity Code (EAC)
EAC4043
EAC44-EAC46
EAC4748
EAC49-EAC50
EAC60-EAC78

ENGY01_OC -   See Bradley et al. (1983) for a detailed description of these variables.
ENGY57_OC

ENGY01_NC -
ENGY76_NC

EN1C_T   RESIDENTIAL CONSUMPTION OF   COAL, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN1E_T   ELECTRICITY WORKS USE OF   COAL, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN1FC_T   FINAL CONSUMPTION OF   COAL, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN1G_T   GAS WORKS USE OF   COAL, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN1I_   CONSUMPTION OF   COAL, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN1M_T   IMPORTS OF   COAL, IN 'MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN1QD_T   PRODUCTION OF   COAL, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN1TD_T   DOMESTIC CONSUMPTION OF   COAL, IN 'MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN1X_T   IMPORTS OF   COAL, IN 'MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN3M_M   IMPORTS OF   BRUT CRUDE OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN3R_M   REFINERIES USE OF   BRUT CRUDE OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN3TD_M   DOMESTIC CONSUMPTION OF   BRUT CRUDE OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN3X_M   IMPORTS OF   BRUT CRUDE OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN4C_   RESIDENTIAL CONSUMPTION OF   OIL , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN4E_T   ELECTRICITY WORKS USE OF   OIL , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN4FC_T   FINAL CONSUMPTION OF   OIL , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN4G_T   GAS WORKS USE OF   OIL , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN4I_T   INDUSTRY CONSUMPTION OF   OIL , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN4IB_T   CONSTRUCTION SECTOR CONSUMPTION OF   OIL , IN '000S TOE'S. SOURCE:OECD ENERGY BALANCES
EN4IMCH_T   CHEMICAL SECTOR CONSUMPTION OF   OIL , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN4IMFD_T   FOOD AND TOBACCO SECTOR CONSUMPTION OF OIL , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN4IMMM_T   INDUSTRIAL MACHINERY CONSUMPTION OF   OIL , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN4M_T   IMPORTS OF   OIL , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN4R_T   REFINERIES USE OF   OIL , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES

EN4SMTC_T	TRANSPORT CONSUMPTION OF	OIL , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN4TD_T	DOMESTIC CONSUMPTION OF	OIL , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN4X_T	IMPORTS OF	OIL , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN41FC_M	FINAL CONSUMPTION OF	MOTOR GASOLINE, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN41M_M	IMPORTS OF	MOTOR GASOLINE, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN41QD_M	PRODUCTION OF	MOTOR GASOLINE, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN41SMTC_M	TRANSPORT CONSUMPTION OF	MOTOR GASOLINE, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN41TD_M	DOMESTIC CONSUMPTION OF	MOTOR GASOLINE, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN41X_M	IMPORTS OF	MOTOR GASOLINE, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN42C_M	RESIDENTIAL CONSUMPTION OF	DIESEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN42E_M	ELECTRICITY WORKS USE OF	DIESEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN42FC_M	FINAL CONSUMPTION OF	DIESEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN42G_M	GAS WORKS USE OF	DIESEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN42I_M	INDUSTRY CONSUMPTION OF	DIESEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN42IB_M	CONSTRUCTION SECTOR CONSUMPTION OF	DIESEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN42IMCH_M	CHEMICAL SECTOR CONSUMPTION OF	DIESEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN42IMFD_M	FOOD AND TOBACCO SECTOR CONSUMPTION OF	DIESEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN42IMMM_M	INDUSTRIAL MACHINERY CONSUMPTION OF	DIESEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN42M_M	IMPORTS OF	DIESEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN42QD_M	PRODUCTION OF	DIESEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN42SMTC_M	TRANSPORT CONSUMPTION OF	DIESEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN42TD_M	DOMESTIC CONSUMPTION OF	DIESEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN42X_M	IMPORTS OF	DIESEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN43E_M	ELECTRICITY WORKS USE OF	RESIDUAL FUEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN43FC_M	FINAL CONSUMPTION OF	RESIDUAL FUEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN43G_M	GAS WORKS USE OF	RESIDUAL FUEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN43I_M	INDUSTRY CONSUMPTION OF	RESIDUAL FUEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN43IB_M	CONSTRUCTION SECTOR CONSUMPTION OF	RESIDUAL FUEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN43IMCH_M	CHEMICAL SECTOR CONSUMPTION OF	RESIDUAL FUEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN43IMFD_M	FOOD AND TOBACCO SECTOR CONSUMPTION OF RESIDUAL FUEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN43IMMM_M	INDUSTRIAL MACHINERY CONSUMPTION OF	RESIDUAL FUEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN43M_M	IMPORTS OF	RESIDUAL FUEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN43QD_M	PRODUCTION OF	RESIDUAL FUEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN43TD_M	DOMESTIC CONSUMPTION OF	RESIDUAL FUEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN43X_M	IMPORTS OF	RESIDUAL FUEL OIL, IN '000S METRIC TONS. SOURCE:OECD ENERGY BALANCES
EN6C_T	RESIDENTIAL CONSUMPTION OF	GAS , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN6E_T	ELECTRICITY WORKS USE OF	GAS , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN6FC_T	FINAL CONSUMPTION OF	GAS , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN6G_T	GAS WORKS USE OF	GAS , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN6I_T	INDUSTRY CONSUMPTION OF	GAS , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES

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EN6IMCH_T      CHEMICAL SECTOR CONSUMPTION OF GAS , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN6IMCHF_T     CHEMICAL SECTOR FEEDSTOCKS FROM    GAS , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN6IMFD_T      FOOD AND TOBACCO SECTOR CONSUMPTION OF GAS , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN6QD_T        PRODUCTION OF              GAS , IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN7C_T         RESIDENTIAL CONSUMPTION OF         ELECTRICITY, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN7E_T         ELECTRICITY WORKS USE OF           ELECTRICITY, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN7FC_T        FINAL CONSUMPTION OF           ELECTRICITY, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN7I_T         INDUSTRY CONSUMPTION OF         ELECTRICITY, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN7IMCH_T      CHEMICAL SECTOR CONSUMPTION OF      ELECTRICITY, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN7IMFD_T      FOOD AND TOBACCO SECTOR CONSUMPTION OF ELECTRICITY, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN7IMMM_T      INDUSTRIAL MACHINERY CONSUMPTION OF ELECTRICITY, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN7QD_T        PRODUCTION OF HYDRO, GEOTHERM AND SOLAR   ELECTRICITY, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN8C_T         RESIDENTIAL CONSUMPTION OF      TURF, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN8E_T         ELECTRICITY WORKS USE OF       TURF, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN8FC_T        FINAL CONSUMPTION OF        TURF, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN8I_T         INDUSTRY CONSUMPTION OF        TURF, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN8QD_T        PRODUCTION OF        TURF, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
EN8TD_T        DOMESTIC CONSUMPTION OF       TURF, IN MILLIONS TOE'S. SOURCE:OECD ENERGY BALANCES
PEN1           PRICE OF COAL, $ PER TOE. SOURCE:SCOTT 1989.
PEN41          PRICE OF PETROL, $ PER TOE. SOURCE: SCOTT, 1989.
PEN42          PRICE OF DIESEL, $ PER LITRE. SOURCE: OECD
PEN43          PRICE OF FUEL OIL, $ PER TOE. SOURCE: SCOTT, 1989.
PEN44          PRICE OF GAS OIL, $ PER TOE. SOURCE: SCOTT, 1989.
PEN6           PRICE OF ALL GAS TO CONSUMERS, $ PER TOE. SOURCE: SCOTT, 1989.
PEN61          PRICE OF LP GAS TO CONSUMERS, $ PER TOE. SOURCE: SCOTT, 1989.
PEN62          PRICE OF GAS TO CONSUMERS, $ PER TOE. SOURCE: SCOTT, 1989.
PEN7           PRICE OF ELECTRICITY, $ PER TOE. SOURCE: SCOTT, 1989.
PEN7I_K        PRICE OF ELECTRICITY TO INDUSTRY, $ PER KILOWATT HOUR. SOURCE: OECD
PEN81          PRICE OF TURF BRIQUETTES, $ PER TOE. SOURCE: SCOTT, 1989.
PEN82          PRICE OF BAGGED TURF, $ PER TOE. SOURCE: SCOTT,1989.
QEIMCFV_NC     ($000S) CLOTHING, FOOTWEAR AND LEATHER SECTOR TOTAL ENERGY CONSUMPTION
QEIMCF1V_NC    ($000S) CLOTHING, FOOTWEAR AND LEATHER SECTOR CONSUMPTION OF COAL AND TURF
QEIMCF4V_NC    ($000S) CLOTHING, FOOTWEAR AND LEATHER SECTOR CONSUMPTION OF PETROLEUM
QEIMCF7V_NC    ($000S) CLOTHING, FOOTWEAR AND LEATHER SECTOR CONSUMPTION OF ELECTRICITY
QEIMCF9V_NC    ($000S) CLOTHING, FOOTWEAR AND LEATHER SECTOR CONSUMPTION OF OTHER FUELS
QEIMCHV_NC     ($000S) CHEMICALS SECTOR TOTAL ENERGY CONSUMPTION
QEIMCH1V_NC    ($000S) CHEMICALS SECTOR CONSUMPTION OF COAL AND TURF
QEIMCH4V_NC    ($000S) CHEMICALS SECTOR CONSUMPTION OF PETROLEUM
QEIMCH7V_NC    ($000S) CHEMICALS SECTOR CONSUMPTION OF ELECTRICITY
QEIMCH9V_NC    ($000S) CHEMICALS SECTOR CONSUMPTION OF OTHER FUELS
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QEIMDTV_NC    ($000S) DRINK AND TOBACCO SECTOR TOTAL ENERGY CONSUMPTION
QEIMDT1V_NC   ($000S) DRINK AND TOBACCO SECTOR CONSUMPTION OF COAL AND TURF
QEIMDT4V_NC   ($000S) DRINK AND TOBACCO SECTOR CONSUMPTION OF PETROLEUM
QEIMDT7V_NC   ($000S) DRINK AND TOBACCO SECTOR CONSUMPTION OF ELECTRICITY
QEIMDT9V_NC   ($000S) DRINK AND TOBACCO SECTOR CONSUMPTION OF OTHER FUELS
QEIMFV_NC     ($000S) FOOD SECTOR TOTAL ENERGY CONSUMPTION
QEIMF1V_NC    ($000S) FOOD SECTOR CONSUMPTION OF COAL AND TURF
QEIMF4V_NC    ($000S) FOOD SECTOR CONSUMPTION OF PETROLEUM
QEIMF7V_NC    ($000S) FOOD SECTOR CONSUMPTION OF ELECTRICITY
QEIMF9V_NC    ($000S) FOOD SECTOR CONSUMPTION OF OTHER FUELS
QEIMGLV_NC    ($000S) MANUF OF NON-METALLIC PRODUCTS SECTOR TOTAL ENERGY CONSUMPTION
QEIMGL1V_NC   ($000S) MANUF OF NON-METALLIC PRODUCTS SECTOR CONSUMPTION OF COAL AND TURF
QEIMGL4V_NC   ($000S) MANUF OF NON-METALLIC PRODUCTS SECTOR CONSUMPTION OF PETROLEUM
QEIMGL7V_NC   ($000S) MANUF OF NON-METALLIC PRODUCTS SECTOR CONSUMPTION OF ELECTRICITY
QEIMGL9V_NC   ($000S) MANUF OF NON-METALLIC PRODUCTS SECTOR CONSUMPTION OF OTHER FUELS
QEIMMMV_NC    ($000S) METALS AND ENGINEERING SECTOR TOTAL ENERGY CONSUMPTION
QEIMMM1V_NC   ($000S) METALS AND ENGINEERING SECTOR CONSUMPTION OF COAL AND TURF
QEIMMM4V_NC   ($000S) METALS AND ENGINEERING SECTOR CONSUMPTION OF PETROLEUM
QEIMMM7V_NC   ($000S) METALS AND ENGINEERING SECTOR CONSUMPTION OF ELECTRICITY
QEIMMM9V_NC   ($000S) METALS AND ENGINEERING SECTOR CONSUMPTION OF OTHER FUELS
QEIMMQV_NC    ($000S) MINING, QUARRYING, TURF SECTOR TOTAL ENERGY CONSUMPTION
QEIMMQ1V_NC   ($000S) MINING, QUARRYING, TURF SECTOR CONSUMPTION OF COAL AND TURF
QEIMMQ4V_NC   ($000S) MINING, QUARRYING, TURF SECTOR CONSUMPTION OF PETROLEUM
QEIMMQ7V_NC   ($000S) MINING, QUARRYING, TURF SECTOR CONSUMPTION OF ELECTRICITY
QEIMMQ9V_NC   ($000S) MINING, QUARRYING, TURF SECTOR CONSUMPTION OF OTHER FUELS
QEIMOTV_NC    ($000S) OTHER MANUFACTURING SECTOR TOTAL ENERGY CONSUMPTION
QEIMOT1V_NC   ($000S) OTHER MANUFACTURING SECTOR CONSUMPTION OF COAL AND TURF
QEIMOT4V_NC   ($000S) OTHER MANUFACTURING SECTOR CONSUMPTION OF PETROLEUM
QEIMOT7V_NC   ($000S) OTHER MANUFACTURING SECTOR CONSUMPTION OF ELECTRICITY
QEIMOT9V_NC   ($000S) OTHER MANUFACTURING SECTOR CONSUMPTION OF OTHER FUELS
QEIMPPV_NC    ($000S) PAPER SECTOR TOTAL ENERGY CONSUMPTION
QEIMPP1V_NC   ($000S) PAPER SECTOR CONSUMPTION OF COAL AND TURF
QEIMPP4V_NC   ($000S) PAPER SECTOR CONSUMPTION OF PETROLEUM
QEIMPP7V_NC   ($000S) PAPER SECTOR CONSUMPTION OF ELECTRICITY
QEIMPP9V_NC   ($000S) PAPER SECTOR CONSUMPTION OF OTHER FUELS
QEIMTV_NC     ($000S) NACE 1-4 LESS 13,16,17 SECTOR TOTAL ENERGY CONSUMPTION
QEIMTXV_NC    ($000S) TEXTILES SECTOR TOTAL ENERGY CONSUMPTION
QEIMTX1V_NC   ($000S) TEXTILES SECTOR CONSUMPTION OF COAL AND TURF
QEIMTX4V_NC   ($000S) TEXTILES SECTOR CONSUMPTION OF PETROLEUM
QEIMTX7V_NC   ($000S) TEXTILES SECTOR CONSUMPTION OF ELECTRICITY
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QEIMTX9V_NC   ($000S) TEXTILES SECTOR CONSUMPTION OF OTHER FUELS
QEIMT1V_NC    ($000S) NACE 1-4 LESS 13,16,17 SECTOR CONSUMPTION OF COAL AND TURF
QEIMT4V_NC    ($000S) NACE 1-4 LESS 13,16,17 SECTOR CONSUMPTION OF PETROLEUM
QEIMT7V_NC    ($000S) NACE 1-4 LESS 13,16,17 SECTOR CONSUMPTION OF ELECTRICITY
QEIMT9V_NC    ($000S) NACE 1-4 LESS 13,16,17 SECTOR CONSUMPTION OF OTHER FUELS
QEIMV_NC      ($000S) NACE 1-4 LESS 11,13,16,17,21,23 SECTOR TOTAL ENERGY CONSUMPTION
QEIMWDV_NC    ($000S) TIMBER AND WOODEN FURNITURE SECTOR TOTAL ENERGY CONSUMPTION
QEIMWD1V_NC   ($000S) TIMBER AND WOODEN FURNITURE SECTOR CONSUMPTION OF COAL AND TURF
QEIMWD4V_NC   ($000S) TIMBER AND WOODEN FURNITURE SECTOR CONSUMPTION OF PETROLEUM
QEIMWD7V_NC   ($000S) TIMBER AND WOODEN FURNITURE SECTOR CONSUMPTION OF ELECTRICITY
QEIMWD9V_NC   ($000S) TIMBER AND WOODEN FURNITURE SECTOR CONSUMPTION OF OTHER FUELS
QEIM1V_NC     ($000S) NACE 1-4 LESS 11,13,16,17,21,23 SECTOR CONSUMPTION OF COAL AND TURF
QEIM4V_NC     ($000S) NACE 1-4 LESS 11,13,16,17,21,23 SECTOR CONSUMPTION OF PETROLEUM
QEIM412V_NC   ($000S) FOOD - SLAUGHTERING, PREPARING AND PRESERVING OF MEAT TOTAL ENERGY CONSUMPTION
QEIM413V_NC   ($000S) FOOD - MANUFACTURE OF DAIRY PRODUCTS TOTAL ENERGY CONSUMPTION
QEIM7V_NC     ($000S) NACE 1-4 LESS 11,13,16,17,21,23 SECTOR CONSUMPTION OF ELECTRICITY
QEIM9V_NC     ($000S) NACE 1-4 LESS 11,13,16,17,21,23 SECTOR CONSUMPTION OF OTHER FUELS
QEIUV_NC      ($000S) ELECTRICITY, GAS, WATER SECTOR TOTAL ENERGY CONSUMPTION
QEIU1V_NC     ($000S) ELECTRICITY, GAS, WATER SECTOR CONSUMPTION OF COAL AND TURF
QEIU4V_NC     ($000S) ELECTRICITY, GAS, WATER SECTOR CONSUMPTION OF PETROLEUM
QEIU7V_NC     ($000S) ELECTRICITY, GAS, WATER SECTOR CONSUMPTION OF ELECTRICITY
QEIU9V_NC     ($000S) ELECTRICITY, GAS, WATER SECTOR CONSUMPTION OF OTHER FUELS
QEIV_NC       ($000S) NACE 1-4 SECTOR TOTAL ENERGY CONSUMPTION
QEI1V_NC      ($000S) NACE 1-4 SECTOR CONSUMPTION OF COAL AND TURF
QEI4V_NC      ($000S) NACE 1-4 SECTOR CONSUMPTION OF PETROLEUM
QEI7V_NC      ($000S) NACE 1-4 SECTOR CONSUMPTION OF ELECTRICITY
QEI9V_NC      ($000S) NACE 1-4 SECTOR CONSUMPTION OF OTHER FUELS
QEREFV_NC     ($000S) OIL REFINING SECTOR TOTAL ENERGY CONSUMPTION
QEREF1V_NC    ($000S) OIL REFINING SECTOR CONSUMPTION OF COAL AND TURF
QEREF4V_NC    ($000S) OIL REFINING SECTOR CONSUMPTION OF PETROLEUM
QEREF7V_NC    ($000S) OIL REFINING SECTOR CONSUMPTION OF ELECTRICITY
QEREF9V_NC    ($000S) OIL REFINING SECTOR CONSUMPTION OF OTHER FUELS
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Appendix 3: Output Series

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AAEAGIMP        WAIMP = YA/LA
AAEI            WI = YWI/LI
AAEIDOT         WI_DOT = DEL(1 : WI)/WI(-1)*100.
AAENA           WNA = YWNA/LNA
AAENADOT        WNA_DOT = DEL(1 : WNA)/WNA(-1)*100.
AAEPA           WSNP = YWSNP/LSNP
AAESHE          WSNHE = YWSNHE/LSNHE
AAESM           WSM = YWSM/LSM
AAESMDOT        WSM_DOT = DEL(1 : WSM)/WSM(-1)*100.
AAESO           WSO = YWSO/LSO
AAITI           AAITI = YPERT/LNA
BPPR            BPPR = DEL(1 : R)-BP-DEL(1 : NFLB)-BPTKNG-GFBORF-GFBORD
BPTR            BPTR = 100*(BPT/GNPV)
CENERGY         CENERGY = CONB1405+CPET
CENERGY_DIS     CENERGY_DIS = CENERGY/ENC_T
CENERGYV        CENERGYV = CONB1305+CPETV
DEP             DEP = DEPAG+DEPI+DEPS
DEPAG           DEPAG = DEPA
DEPI            DEPI = B0217
DEPS            DEPS = B0218+B0219
DUMED           DUMED = IF YEAR() LT 1968 THEN 0 ELSE (IF YEAR() LT 1973 THEN 1-(1972-YEAR())/ 5 ELSE 1)
DUMNI           DUMNI = IF TYEAR LT 1970 THEN 0 ELSE 1
DUM73           DUM73 = IF TYEAR EQ 1973 THEN 1 ELSE 0
DUM74           DUM74 = IF TYEAR EQ 1974 THEN 1 ELSE 0
DUM75           DUM75 = IF TYEAR EQ 1975 THEN 1 ELSE 0
D72             D72 = IF TYEAR LT 1972 THEN 0 ELSE 1
D74             D74 = IF TYEAR LT 1974 THEN 0 ELSE 1
D79             D79 = IF YEAR(TYEAR) GT 1978 THEN 1 ELSE 0
EDIRT           EDIRT = UNITY
EECBUD          EECBUD = IF YEAR(GTEVAT) LT 1973 THEN 0 ELSE (IF YEAR(GTEVAT) EQ 1974 THEN 5.647 ELSE (IF YEAR(GTEVAT) LT 1976 THEN
                GTEVAT+GTEXT+GTECUSO+GTAGLEV-(B2218+B2219+B2220+B2221+B2222+B2229) ELSE GTEVAT+GTECUSO+GTAGLEV-(B2218+B2222+B2229) +EECCIC))
EECTE           EECTE = B2234
ENBA_T          ENBA_T = ENTD-(ENQD_T+ENM_T+ENX_T)
ENC_T           ENC_T = EN1C_T+EN4C_T+EN6C_T+EN7C_T+EN8C_T
ENFC_T          ENFC_T = EN1FC_T+EN4FC_T+EN6FC_T+EN7FC_T+EN8FC_T
ENI_T           ENI_T = EN1I_T+EN4I_T+EN6I_T+EN7I_T+EN8I_T
ENIB_T          ENIB_T = EN4IB_T
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EN1MCH_T          EN1MCH_T = EN4IMCH_T+EN6IMCH_T+EN7IMCH_T
EN1MCHF_T         EN1MCHF_T = EN6IMCHF_T
EN1MD_T           EN1MD_T = EN1_T-EN1B_T-EN1MF_T-EN1MH_T
EN1MF_T           EN1MF_T = EN1MFD_T
EN1MFD_T          EN1MFD_T = EN4IMFD_T+EN7IMFD_T
EN1MH_T           EN1MH_T = EN1MCH_T+EN1MMM_T
EN1MMM_T          EN1MMM_T = EN4IMMM_T+EN7IMMM_T
ENM_T             ENM_T = EN1M_T+EN4M_T
ENOL_T            ENOL_T = ENTD_T-ENFC_T-ENUL_T
ENQD_T            ENQD_T = EN1QD_T+EN8QD_T+EN6QD_T+EN7QD_T
ENRES_T           ENRES_T = ENFC_T-ENI_T-ENSMTC_T-ENC_T
ENSMTC_T          ENSMTC_T = EN4SMTC_T
ENTD_T            ENTD_T = EN1TD_T+EN4TD_T+EN6TD_T+EN7TD_T+EN8TD_T
ENUL_T            ENUL_T = -(EN1E_T+EN8E_T+EN4E_T+EN6E_T)+EN7TD_T-(EN1G_T+EN4G_T)-EN4R_T
ENX_T             ENX_T = EN1X_T+EN4X_T
EN1BA_T           EN1BA_T = EN1TD_T-(EN1QD_T+EN1M_T-EN1X_T)
EN3BA_T           EN3BA_T = EN3TD_T-(EN3M_T-EN3X_M*1.007/1000)
EN3M_T            EN3M_T = EN3M_M/1000*1.007
EN3TD_T           EN3TD_T = EN3TD_M*1.007/1000
EN4BA_T           EN4BA_T = EN4TD_T-(EN4M_T-EN4X_T)
EN4IMF_T          EN4IMF_T = EN4IMFD_T
EN4IMH_T          EN4IMH_T = EN4IMCH_T+EN4IMMM_T
EN41FC_T          EN41FC_T = EN41FC_M*1.073/1000
EN41M_T           EN41M_T = EN41M_M*1.073/1000
EN42FC_T          EN42FC_T = EN42FC_M*1.045/1000
EN42IB_T          EN42IB_T = EN42IB_M*1.045/1000
EN42IM_T          EN42IM_T = EN42IMF_T+EN42IMD_T+EN42IMH_T
EN42IMD_T         EN42IMD_T = EN42I_M/1000*1.045-EN42IB_T-EN42IMH_T-EN42IMF_T
EN42IMF_T         EN42IMF_T = EN42IMFD_M/1000*1.045
EN42IMH_T         EN42IMH_T = (EN42IMCH_M+EN42IMMM_M)*1.045/1000
EN42M_T           EN42M_T = EN42M_M*1.045/1000
EN43FC_T          EN43FC_T = EN43FC_M*0.969/1000
EN43IM_T          EN43IM_T = EN43IMF_T+EN43IMD_T+EN43IMH_T
EN43IMD_T         EN43IMD_T = EN43I_M/1000*0.969-EN43IMH_T-EN43IMF_T
EN43IMF_T         EN43IMF_T = EN43IMFD_M/1000*0.969
EN43IMH_T         EN43IMH_T = (EN43IMCH_M/1000+EN43IMMM_M/1000)*0.969
EN43M_T           EN43M_T = EN43M_M*0.969/1000
EN49FC_T          EN49FC_T = EN4FC_T-EN41FC_T-EN42FC_T-EN43FC_T
EN49IB_T          EN49IB_T = EN4IB_T-EN42IB_T-EN43IB_M*0.969/1000
EN49IMD_T         EN49IMD_T = EN4I_T-EN4IB_T-EN4IMF_T-EN4IMH_T-EN42IMD_T-EN43IMD_T
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EN49IMF_T          EN49IMF_T = EN4IMFD_T-EN42IMF_T-EN43IMF_T
EN49IMH_T          EN49IMH_T = EN4IMH_T-EN42IMH_T-EN43IMH_T
EN49M_T            EN49M_T = EN4M_T-EN3M_T-EN41M_T-EN42M_T-EN43M_T
EN6BA_T            EN6BA_T = EN6TD_T-EN6QD_T
EN6TD_T            EN6TD_T = EN6QD_T
EN7BA_T            EN7BA_T = EN7TD_T-EN7QD_T
EN7TD_T            EN7TD_T = EN7QD_T
EN8BA_T            EN8BA_T = EN8TD_T-EN8QD_T
EOPRI              EOPRI = OPRI
EOPRSM             EOPRSM = OPRSM
ERAW               ERAW = (RAW(-1)+RAW(-2))/2
EWI_DOT            EWI_DOT = (WI_DOT(-1)+WI_DOT(-2)+WI_DOT(-3))/3
EWSM_DOT           EWSM_DOT = (WSM_DOT(-1)+WSM_DOT(-2)+WSM_DOT(-3))/3
FDWOSMDI           FDWOSMDI = NEWPER(FDWOSMDI,1,1970)
FDWOSMPF           FDWOSMPF = NEWPER(FDWOSMPF,1,1970)
FDWOSMTC           FDWOSMTC = NEWPER(FDWOSMTC,1,1970)
FDWOSNHE           FDWOSNHE = NEWPER(FDWOSNHE,1,1970)
FDWOSNP            FDWOSNP = NEWPER(FDWOSNP,1,1970)
FDWQGA             FDWQGA = NEWPER(FDWQGA,1,1970)
FDWQGIB            FDWQGIB = NEWPER(FDWQGIB,1,1970)
FDWQGIMD           FDWQGIMD = NEWPER(FDWQGIMD,1,1970)
FDWQGIMF           FDWQGIMF = NEWPER(FDWQGIMF,1,1970)
FDWQGIMH           FDWQGIMH = NEWPER(FDWQGIMH,1,1970)
FDWQGIU            FDWQGIU = FDWQGIU-VALUE(X.2,5,2)*QRIMF-VALUE(X.2,5,3)*QRIMH-VALUE(X.2,5,4)* QRIMD+VALUE(X.6,1,2)*QEIMF+VA-
                   LUE(X.6,1,3)*QEIMH+VALUE(X.6,1,4)*QEIMD
FFAQC              FFAQC = FFSC-FFUC
FFAQH              FFAQH = FFSH-FFUH
FFAQT              FFAQT = FFAQC+FFAQH
FFSC               FFSC = SAVC+DEPI+0.55*DEPS+GKTI+GKREST
FFSH               FFSH = SAV+DEPAG+GKTH
FFUC               FFUC = IIV+ISMV+STNAVDL+STIVVDL-ISMGV
FFUH               FFUH = IHPV+IAGV+STAVDL
GBR                GBR = GTTOT+GR-GC-GK
GBRC               GBRC = GTTOT-GC
GBRK               GBRK = GR-GK
GC                 GC = GCGV+GCS+GCTPER+GCTABR+GCTNT
GCG                GCG = B0602
GCGNP              GCGNP = GCG-OSNP-GCGOW
GCGNPV             GCGNPV = GCGV-OSNPV-GCGOWV
GCGOW              GCGOW = GCGOWV/PGCGOW
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GCGOWV           GCGOWV = YWSNHE-GCTW
GCGSHE           GCGSHE = GCG-OSNP
GCGSHEV          GCGSHEV = GCGV-OSNPV
GCGV             GCGV = B0502
GCGW             OSNP = B0404
GCGWV            YWSNP = B0207
GCSA             GCSA = IF YEAR(GCSA) LT 1973 THEN GCSA+B2310 ELSE GCSA
GCSC             GCSC = GCSCO+GCSCT
GCSCFD           GCSCFD = GCSCG-GCSCFPOW
GCSCG            GCSCG = B2321+B2322+GCSCFPOW+(IF YEAR(B2320) LT 1973 THEN 0 ELSE B2310)
GCSCO            GCSCO = GCSCS-GCSCT+GCSCG
GCSCS            GCSCS = B2326+B2328+B2329+B2330+B2331+B2332
GCSCS2           GCSCS2 = GCSCS-(B2315+B2332)/2
GCSCT            GCSCT = B2326+B2332
GCSO             GCSO = B1922+B2015+B2016-GCSC
GCSONA           GCSONA = GCSO-GCSA
GCTABR           GCTABR = B1927
GCTED            GCTED = B2405+B2406+B2407+B2408
GCTEMP           GCTEMP = B2436+B2438+B2439
GCTESO           GCTESO = GCTED+GCTO+GCTSW
GCTNDT           GCTNDT = GCTNT-GCTNFT
GCTNFT           GCTNFT = B2403
GCTNT            GCTNT = B1923+B1924+B1925+B2018
GCTO             GCTO = GCTPER-(GCTED+GCTUAO+GCTUB+GCTPRB+GCTSW+GCTEMP)
GCTPER           GCTPER = B1926+B2019
GCTPRB           GCTPRB = B2423
GCTREST          GCTREST = GCTPER-GCTUP-GCTPRB-GCTW
GCTSW            GCTSW = B2409+B2410+B2412+B2413+B2414+B2416+B2418+B2419+B2420+B2421+B2422+ B2424+B2430+GCTUASH+B2435+B2437
GCTTU            GCTTU = GCTUB+GCTUAO+GCTPRB
GCTUAO           GCTUAO = B2411-GCTUASH
GCTUB            GCTUB = B2417
GCTUP            GCTUP = GCTUB+GCTUAO
GCTW             GCTW = B2406+0.8*B2405
GK               GK = GKI+GKT+GKL+GKTABR
GKI              GKI = GKIB+GKIME
GKIB             GKIB = GKIBC+GKIH
GKIBC            GKIBC = B1937+B2028-GKIH-GKIME
GKIH             GKIH = B2515
GKIME            GKIME = 0.8072*B2502+B2512+B2513
GKL              GKL = GKLO+GKLINT
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GKLO             GKLO = B1936+B2027-GRLINT
GKREST           GKREST = GK-GKTI-GKTH-ISNPV-ISNHEV-IHGV-ISMGV
GKT              GKT = GKTI+GKTC+GKTH+GKTP
GKTABR           GRTABR = B1939
GKTC             GKTC = B1932+B2023-GKTI
GKTF             GKTF = B1939
GKTH             GKTH = B2442+B2443+B2024
GKTHE            GKTHE = B2446+B2447+B2448+B2449+B2450
GKTI             GKTI = B2348+B2349+B2350+B2354+B2356+B2357
GKTO             GKTO = GKTPO+GKTI+GKTC
GKTP             GKTP = B1933-(B2442+B2443)
GKTPO            GKTPO = GKTH+GKTP-GKTHE
GR               GR = GRTK+GRLO+GRLINT+GRTABR+GROTH
GRLO             GRLO = B1915+B1916+B2009-GRLINT
GROTH            GROTH = B2008+B2010
GRTABR           GRTABR = B1917
GRTK             GRTK = B1913
GTE              GTE = GTEXT+GTECUSO+GTEVAT+GTERATE+GTAGLEV+GTEO+GTEMVDC-(EECBUD-EECCIC)
GTEAV            GTEAV = GTEVAT+GTEXAV
GTEHRATE         GTEHRATE = IF YEAR(B2225) LT 1977 THEN 0.575623*B2225 ELSE (IF YEAR(B2225) EQ 1977 THEN 56.38+B2225*0 ELSE B2225*0)
GTEMVDC          GTEMVDC = B2226
GTEO             GTEO = B2223+B2224+B2227+B2228+B2230+B2231+B2232+B2233
GTERAT           GTERAT = 100*GTE/GTTOT
GTERATE          GTERATE = B2225
GTERATEC         GTERATEC = GTERATE-GTEHRATE
GTEX             GTEX = GTEXOIL+GTEXPET+GTEXO+GTEXTOB+GTEXAL
GTEXAL           GTEXAL = GTEXALB+GTEXALO+GTEXALS
GTEXALO          GTEXALO = GTEXALW+GTEXALC
GTEXAV           GTEXAV = GTEXBET+GTEXMV
GTEXO            GTEXO = GTEXT-GTEXOIL-GTEXPET-GTEXTOB-GTEXAL-GTEXMV
GTEXOTB          GTEXOTH = IF YEAR(GTEXAL) LT 1976 THEN GTEXOTH1 ELSE GTEXT-(GTEXAL+GTEXBET+ GTEXLPG+GTEXNALB+GTEXOIL+GTEXPET+GTEXTOB+GTEX-
                 TRAV+GTEXMV+GTEXTV)
GTEXSP           GTEXSP = GTEXT-GTEXBET-GTEXMV
GTEXT            GTEXT = IF YEAR(GTEXAL) LT 1976 THEN GTEXAL+GTEXBET+GTEXLPG+GTEXNALB+GTEXOIL+ GTEXPET+GTEXTOB+GTEXTRAV+GTEXMV+GTEXTV+GTEXOTH1
                 ELSE B2219
GTMVD            GTMVD = GTEMVDC+GTYMVDP
GTTABR           GTTABR = B1910
GTTI             GTTI = B1003
GTTOT            GTTOT = GTE+GTY+GTTI+GTTABR+GTW
GTW              GTW = B2206
```

```
GTY                GTY = GTYC+GTYPER+GTYA+GTYSL+GTYDIRT+GTYMVDP
GTYA               GTYA = GTYPAG+B2208
GTYC               GTYC = B2202+B2203+B2204-GTYPER-GTYDIRT-GTYPAG+B2207+B2211
GTYCTOT            GTYCTOT = GTYC+GTYDIRTC
GTYDIRTP           GTYDIRTP = GTYDIRT-GTYDIRTC
GTYIY              GTYIY = B2209+B2210
GTYMVDP            GTYMVDP = B2205
GTYPER             GTYPER = B0909-(GTYSL+GTW+GTYMVDP+GTYA+GTYDIRT)
GTYPTOT            GTYPTOT = GTYPER+GTYSL+GTYDIRTP
GTYRAT             GTYRAT = 100*GTY/GTTOT
GTYS               GTYS = B2212
GTYSAV             GTYSAV = GTYSL-GTYSFR
GTYSE              GTYSE = B0113
GTYSL              GTYSL = B2209+B2210+B2212
GTYSP              GTYSP = GTYSL-GTYSE
IAG                IAG = B1801
IAGV               IAGV = B1601
IB                 IB = IB+IBC
IBC                IBC = B1702+B1703
IBCG               IBCG = IBCGV/PIBC
IBCGV              IBCGV = GKIBC
IBCP               IBCP = IBCPV/PIBC
IBCPV              IBCPV = IBCV-IBCGV
IBCV               IBCV = B1502+B1503
IBV                IBV = IHV+IBCV
IGIN               ISN = ISNP+ISNHE
IH                 IH = B1701
IHBC               IB = IH+IBC
IHG                IHG = IHGV/PIH
IHGV               IHGV = GKIH
IHP                IHP = IHPV/PIH
IHPV               IHPV = IHV-IHGV
IHV                IHV = B1501
II                 II = IIB+IIU+IIMT
IIB                IIB = B1804
IIBV               IIBV = B1604
IIM                IIM = IIMT-IIMMQ
IIMD               IIMD = IIMDV/PIIMT
IIMDTV_OE          IIMDTV_OE = IIMPDV_OE-IIMFV
IIMDV              IIMDV = COMBINE(IIMDV,IIMDV_X)
```

```
IIMDV_OC          IIMDV_OC = IIMTV_OC-IIMHV_OC-IIMFV_OC
IIMDV_OE          IIMDV_OE = IIMDTV_OE+IIMCLV_OE+IIMWDV_OE+IIMPPV_OE+IIMGLV_OE+IIMMQV_OE
IIMF              IIMF = IIMFV/PIIMT
IIMFRES           IIMFRES = IIMFRESV/PIIMT
IIMFRESV          IIMFRESV = IIMFV-IIMF412V-IIMF413V
IIMFV             IIMFV = IF YEAR(IIMFV) LT IFARG(2) THEN IIMFV*VALUE(IIMFV_NC/IIMFV_OC,IFARG(2) ) ELSE IIMFV
IIMF412           IIMF412 = IIMF412V/PIIMT
IIMF412V          IIMF412V = IF YEAR(IIMF412V) LT IFARG(2) THEN IIMF412V*VALUE(IIMF412V_NC/ IIMF412V_X,IFARG(2)) ELSE IIMF412V
IIMF413           IIMF413 = IIMF413V/PIIMT
IIMF413V          IIMF413V = IF YEAR(IIMF413V) LT IFARG(2) THEN IIMF413V*VALUE(IIMF413V_NC/ IIMF413V_X,IFARG(2)) ELSE IIMF413V
IIMH              IIMH = IIMHV/PIIMT
IIMHV             IIMHV = COMBINE(IIMHV,IIMHV_X)
IIMHV_OC          IIMHV_OC = IIMCHV_OC+IIMMHV_OC
IIMHV_OE          IIMHV_OE = IIMCHV_OE+IIMBHV_OE+IIMFHV_OE
IIMMQ             IIMMQ = IIMMQV/PIIMT
IIMMQV            IIMMQV = IF YEAR(IIMMQV) LT IFARG(2) THEN IIMMQV*VALUE(IIMMQV_OE/IIMMQV_OC, IFARG(2)) ELSE IIMMQV
IIMT              IIMT = B1803
IIMT_DIS          IIMT_DIS = IIMT-IIMH-IIMD-IIMF
IIMTV             IIMTV = B1603
IIMTV_DIS         IIMTV_DIS = IIMTV-IIMHV-IIMDV-IIMFV
IIMV              IIMV = IIMTV-IIMMQV
IIU               IIU = B1802
IIUV              IIUV = B1602
IIV               IIV = IIBV+IIUV+IIMTV
IME               IME = B1704+B1705+B1706
IMEG              IMEG = IMEGV/PIME
IMEGV             IMEGV = GKIME
IMEP              IMEP = IMEPV/PIME
IMEPV             IMEPV = IMEV-IMEGV
IMEV              IMEV = B1504+B1505+B1506
INB               IME = B1704+B1705+B1706
IPA               ISNP = ISNP
IPAV              ISNPV = ISNPV
IS                IS=IF YEAR(IS) GT IFARG(1) THEN IS*VALUE((B1805+B1806-IH)/IS_X,IFARG(1)) ELSE IS
IS_DIS            IS_DIS=ITOT-IAG-IH-IIU-IIB-B1803-IS
ISHE              ISNHE = ISNE+ISNH
ISHEV             ISNHEV = ISNEV+ISNHV
ISM               ISM = IS-ISNHE-ISNP
ISMDI             ISMDI = ISDI
ISMDIV            ISMDIV = ISDIV
```

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ISMDT            ISMDT = ISMDI+ISMTC
ISMDTV           ISMDTV = ISMDIV+ISMTCV
ISMFI            ISMFI = ISFI
ISMFIV           ISMFIV = ISFIV
ISMG             ISMG = ISMGR+ISMGW
ISMGR            ISMGR = B1702
ISMGRV           ISMGRV = B1502
ISMGV            ISMGV = ISMGRV+ISMGWV
ISMGW            ISMGW = B2518*B1703/B1503
ISMGWV           ISMGWV = B2518
ISMPF            ISMPF = ISMFI+ISCP-ISNH-ISMGW
ISMPFV           ISMPFV = ISMFIV+ISCPV-ISNHV-ISMGWV
ISMPS            ISMPS = ISMPF-ISMFI
ISMPSV           ISMPSV = ISMPFV-ISMFIV
ISMTC            ISMTC = ISTR-B1702
ISMTCV           ISMTCV = ISTRV-B1502
ISMV             ISMV = ISV-ISNHEV-ISNPV
ISN              ISN = ISNP+ISNHE
ISNE             ISNE = IPAE
ISNEV            ISNEV = IPAEV
ISNH             ISNH = IF YEAR(ISNH) LT IFARG(2) THEN ISNH*VALUE(ISNH_X/((B2517+B2449+B2450)/ PISCP),IFARG(2)) ELSE ISNH
ISNHE            ISNHE = ISNE+ISNH
ISNHEV           ISNHEV = ISNEV+ISNHV
ISNHV            ISNHV = IF YEAR(ISNHV) LT IFARG(2) THEN ISNHV*VALUE(ISNHV_OE/(B2517+B2449+ B2450),IFARG(2)) ELSE ISNHV
ISNP             ISNP = ISNP
ISNPV            ISNPV = ISNPV
ISNV             ISNV = ISNPV+ISNHEV
ISV              ISV = IF YEAR(ISV) GT IFARG(1) THEN ISV*VALUE((B1605+B1606-IHV)/ISV_X,IFARG(1)) ELSE ISV
ISV_DIS          ISV_DIS = ITOTV-IAGV-IHV-IIUV-IIBV-B1603-ISV
ITNG             ITNG = II+IAG+ISM-ISMGR-ISMGW
ITOT             ITOT = IB+IME
ITOT_DIS         ITOT_DIS = ITOT-IS-II-IAG-IH
ITOTV            ITOTV = IBV+IMEV
ITOTV_DIS        ITOTV_DIS = ITOTV-ISV-IIV-IAGV-IHV
KAG              KAG = COMBINE(KAG,X.1)
KBPPK            KBPPK = COMBINE(KBPPK,X.1)
KBPPKV           KBPPKV = KBPPK*PWORLD
KDIRT            KDIRT = UNITY
KGNBB            KGNBB = GNBB/(BLC+BACC+NFLB+BLO)
KGNBP            KGNBP = DEL(1 : GNBP)/FFAQT
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KGNSS          KGNSS = DEL(1 : GNSS)/FFAQT
KH             KH = COMBINE(KH,X.1)
KI             KI = KIMT+KIU+KIB
KIB            KIB = COMBINE(KIB,X.1)
KIBAR          KIBAR = (KI+KI(-1))/2.
KIMD           KIMD = COMBINE(KIMD,X.1)
KIMF           KIMF = COMBINE(KIMF,X.1)
KIMFRES        KIMFRES = KIMF-KIMF412-KIMF413
KIMF412        KIMF412 = COMBINE(KIMF412,X.1)
KIMF413        KIMF413 = COMBINE(KIMF413,X.1)
KIMH           KIMH = COMBINE(KIMH,X.1)
KIMT           KIMT = KIMH+KIMD+KIMF
KIU            KIU = COMBINE(KIU,X.1)
KS             KS = KSM+KSN
KSM            KSM = KSMDI+KSMTC+KSMFI+KSMPS+KSMG
KSMDI          KSMDI = COMBINE(KSMDI,X.1)
KSMDT          KSMDT = KSMDI+KSMTC
KSMFI          KSMFI = COMBINE(KSMFI,X.1)
KSMG           KSMG = COMBINE(KSMG,X.1)
KSMGR          KSMGR = COMBINE(KSMGR,X.1)
KSMGW          KSMGW = KSMG-KSMGR
KSMPF          KSMPF = KSMFI+KSMPS
KSMPS          KSMPS = COMBINE(KSMPS,X.1)
KSMTC          KSMTC = COMBINE(KSMTC,X.1)
KSN            KSN = KSNHE+KSNP
KSNHE          KSNHE = COMBINE(KSNHE,X.1)
KSNP           KSNP = COMBINE(KSNP,X.1)
KYCSNHE        KYCSNHE = YCSNHE/OSNHEV
KYFNPO         KYFNPO = YFNPO/NFLP(-1)
KYSEAG         KYSEAG = 1-YWA/YA
K2             K2 = GCTPRB/(U*WNA(-1))
L              L = LTOT
LA             LA = LAA
LAFF           LAFF = LAF
LAFISH         LAFISH = NAINTERP(LAFISH_LF)
LAFOR          LAFOR = NAINTERP(LAFOR_LF)
LAG            LAG = LA
LFPR           LFPR = LF/N1564A*100
LI             LI = LIMT+LIU+LIB
LIB            EMPLOYMENT IN BUILDING + CONSTRUCTION (000'S) SOURCE:1956/60 TEU(CSO) 1961/70 ARTICLE BY JJ SEXTON ESRI QEC AUGUST 1982   1979/85
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                        TEU (CSO)\1986-- R & O. DATA PRIOR TO 1961 ARE LINKED
LIM                     EMPLOYMENT IN MANUFACTURING INDUSTRY (000'S). SOURCE:TEU(CSO).          R & O (1986---). NOTE:ESTIMATES REVISED BY CSO FOR 1971/74
                        TO GIVE A CONSISTENT SERIES \FROM 1971
LIMCH                   LIMCH = IF YEAR(LIMCH) LT IFARG(2) THEN LIMCH*VALUE(LIMCH_NC/LIMCH_OC,IFARG(2) ) ELSE LIMCH
LIMCH_NC                LIMCH_NC = AIAA766/1000
LIMCL                   LIMCL = IF YEAR(LIMCL) LT IFARG(2) THEN LIMCL*VALUE(LIMCL_NC/LIMCL_OC,IFARG(2) ) ELSE LIMCL
LIMCL_NC                LIMCL_NC = (AIAA817+AIAA824)/1000
LIMCL_OC                LIMCL_OC = LIMTX_OC+LIMCF_OC
LIMD                    LIMD = LIMCL+LIMWD+LIMPP+LIMGL+LIMOT+LIMDT+LIMMM
LIMDT                   LIMDT = IF YEAR(LIMDT) LT IFARG(2) THEN LIMDT*VALUE(LIMDT_NC/LIMDT_OC,IFARG(2) ) ELSE LIMDT
LIMDT_NC                LIMDT_NC = AIAA811/1000
LIMF                    LIMF = IF YEAR(LIMF) LT IFARG(2) THEN LIMF*VALUE(LIMF_NC/LIMF_OC,IFARG(2))   ELSE LIMF
LIMF_NC                 LIMF_NC = AIAA799/1000
LIMFD                   LIMFD = LIMF+LIMDT
LIMFD_NC                LIMFD_NC = LIMF_NC+LIMDT_NC
LIMFRES                 LIMFRES = LIMF-LIMF412-LIMF413
LIMF412                 LIMF412 = IF YEAR(LIMF412) LT IFARG(2) THEN LIMF412*VALUE(AIAA801/1000/ ELSE LIMF412
LIMF413                 LIMF413 = IF YEAR(LIMF413) LT IFARG(2) THEN LIMF413*VALUE(AIAA802/1000/ LIMFDY_OC,IFARG(2)) ELSE LIMF413
LIMGL                   LIMGL = IF YEAR(LIMGL) LT IFARG(2) THEN LIMGL*VALUE(LIMGL_NC/LIMGL_OC,IFARG(2) ) ELSE LIMGL
LIMGL_NC                LIMGL_NC = AIAA762/1000
LIMH                    LIMH = LIMCH+LIMMM
LIMMM                   LIMMM = IF YEAR(LIMMM) LT IFARG(2) THEN LIMMM*VALUE(LIMMM_NC/LIMMM_OC,IFARG(2) ELSE LIMMM
LIMMM_NC                LIMMM_NC = AIAA773/1000
LIMMQ                   LIMMQ = LIMN
LIMOT                   LIMOT = IF YEAR(LIMOT) LT IFARG(2) THEN LIMOT*VALUE(LIMOT_NC/LIMOT_OC,IFARG(2) ) ELSE LIMOT
LIMOT_NC                LIMOT_NC = AIAA842/1000
LIMPP                   LIMPP = IF YEAR(LIMPP) LT IFARG(2) THEN LIMPP*VALUE(LIMPP_NC/LIMPP_OC,IFARG(2) ) ELSE LIMPP
LIMPP_NC                LIMPP_NC = AIAA839/1000
LIMT                    LIMT = LIM+LIMMQ
LIMT_C                  LIMT_C = LIMH+LIMD+LIMF
LIMT_F                  LIMT_F = LIMT/LIMT_C
LIMWD                   LIMWD = IF YEAR(LIMWD) LT IFARG(2) THEN LIMWD*VALUE(LIMWD_NC/LIMWD_OC,IFARG(2) ) ELSE LIMWD
LIMWD_NC                LIMWD_NC = AIAA833/1000
LIREF_NC                LIREF_NC = AIAA843/1000
LIT                     LIMT = LIM+LIMMQ
LIU                     EMPLOYMENT IN PUBLIC UTILITIES (ELECTRICITY GAS WATER) (000'S) SOURCE:CSO TREND IN EMPLOYMENT AND UNEMPLOYMENT.          ECONOMIC
                        REVIEW AND OUTLOOK (1986--)
LM                      LM = LSM+LI+LAG
LMNA                    LMNA = LSM+LI
LNA                     LNA = LI+LS
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LNM              LSN = LSNP+LSNHE
LPA              LSNP = OVERLAY(IF YEAR(LSNP_LF) LT 1975 THEN LS*(LSNP_LF/LS_X) ELSE LSMP_LF, LSNP_LF)
LS               LS = L-LI-LAG
LSHE             EMPLOYMENT IN HEALTH AND EDUCATION IN '000S SOURCE:DEPARTMENT OF FINANCE
LSM              LSM = LS-LSN
LSMDF            LSMDF = OVERLAY(IF YEAR(LSMDF_LF) LT 1975 THEN LS*(LSMDF_LF/LS_X) ELSE  LSMDF_LF,LSMDF_LF)
LSMDI            LSMDI = LSMDF-LSMFI
LSMDT            LSMDT = LSMTC+LSMDI
LSMFI            LSMFI = LSMFI_X*LSMDF
LSMPF            LSMPF = LSM-LSMDT
LSMPS            LSMPS = LSMPF-LSMFI
LSMTC            LSMTC = OVERLAY(IF YEAR(LSMTC_LF) LT 1975 THEN LS*(LSMTC_LF/LS_X) ELSE  LSMTC_LF,LSMTC_LF)
LSN              LSN = LSNP+LSNHE
LSNP             LSNP = OVERLAY(IF YEAR(LSNP_LF) LT 1975 THEN LS*(LSNP_LF/LS_X) ELSE LSNP_LF, LSNP_LF)
LSO              LSO = LS-LSNP
LSVAI            LSVAI = YWI/OIV
LTEACH           LTEACH = GCTW/WSNHE
LTOT             L = LTOT
LTR              LTR = L/N1564*100
M3_DIS           M3_DIS = M3/ENM_T
NDEP             NDEP = NLE14+NGE65A
NEDPR            NEDPR = NLFED/N1564*100
NFLP             NFLP = KBPPKV-NFLB
NLF              NLF = N1564-LF
N1564            N1564 = NT-(NLE14+NGE65)
N1564A           N1564A = N1564-NLFED
OAG              OAG = QA
OAGV             OAGV = OAV
OI               OI = B0402
OI_DIS           OI_DIS = OI-OIMT-OIU-OIB
OIB              OIB = IF YEAR(OIB) LT IPARG(2) THEN OIB*VALUE(OIB/(B1701+B1702+B1703),IPARG(2) ) ELSE OIB
OIBV             OIBV = OIV-OIUV-OIMTV
OIMT             OIMT = OI-OIB-OIU
OIMT_DIS         OIMT_DIS = OIMT-OIMT_CSO*VALUE(OIMTV/OIMT_CSO,1985)
OIMTV            OIMTV = IF YEAR(OIMTV) LT IPARG(2) THEN OIMTV*VALUE(OIMTV/QNIMTV,IPARG(2))  ELSE OIMTV
OIMTV_DIS        OIMTV_DIS = OIMTV-C03A0648+C03A06
OIT              OIMT = OI-OIB-OIU
OIU              OIU = IF YEAR(OIU) LT IPARG(2) THEN OIU*VALUE(OIU/QIU,IPARG(2)) ELSE OIAU
OIUV             OIUV = IF YEAR(OIUV) LT IPARG(2) THEN OIUV*VALUE(OIUV/QNIUV,IPARG(2)) ELSE  OIUV
OIV              OIV = B0302
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OPA               OSNP = B0404
OPAV              OSNPV = B0304
OPRA              OPRA = OAG/LAG
OPRI              OPRI = OI/LI
OPRIB             OPRIB = OIB/LIB
OPRIMT            OPRIMT = OIMT/LIMT
OPRIU             OPRIU = OIU/LIU
OPRSM             OPRSM = OSM/LSM
OPRSMDI           OPRSMDI = OSMDI/LSMDI
OPRSMDT           OPRSMDT = OSMDT/LSMDT
OPRSMFI           OPRSMFI = OSMFI/LSMFI
OPRSMPF           OPRSMPF = OSMPF/LSMPF
OPRSMPS           OPRSMPS = OSMPS/LSMPDS
OPRSMTC           OPRSMTC = OSMTC/LSMTC
OSHE              OSNHE = OVERLAY(OSNHE,LSNHE)
OSHEV             OSNHEV = IF YEAR(OSNHEV) GT IFARG(1) THEN OSNHEV*VALUE(OSNHEV/(LSNHE*OSNPV/ LSNP),IFARG(1)) ELSE OSNHEV
OSM               OSM = B0403+B0405-OSNHE
OSMDI             OSMDI = IF YEAR(OSMDI) LT IFARG(2) THEN OSMDI*VALUE(OSMDI/B0403,IFARG(2))  ELSE OSMDI
OSMDI_CUR         OSMDI_CUR = OSMDI/OSMDI_STAR
OSMDI_CUR_MEAN    OSMDI_CUR_MEAN = EXPAND(OSMDI_CUR_MEAN,40,1,1970)
OSMDI_CUR_STAR    OSMDI_STAR = (OSMDI+OSMDI(-1)+OSMDI(-2)+OSMDI(-3))/4
OSMDIV            OSMDIV = OSMDTV-OSMTCV
OSMDIV_DIS        OSMDIV_DIS = OSMDIV-C03A56
OSMDT             OSMDT = B0403
OSMDT_DIS         OSMDT_DIS = B0403-OSMDI-OSMTC
OSMDTV            OSMDTV = B0303
OSMFI             OSMFI = IF YEAR(OSMFI) LT IFARG(2) THEN OSMFI*VALUE(OSMFI/OSMPF,IFARG(2))  ELSE OSMFI
OSMFIV            OSMFIV = IF YEAR(OSMFIV) GT IFARG(1) THEN OSMFIV*VALUE(OSMFIV/OSMPFV,IFARG(1))  ELSE OSMFIV
OSMPF             OSMPF = B0405-OSNHE
OSMPF_CUR         OSMPF_CUR = OSMPF/OSMPF_STAR
OSMPF_CUR_MEAN    OSMPF_CUR_MEAN = EXPAND(OSMPF_CUR_MEAN,40,1,1970)
OSMPF_CUR_STAR    OSMPF_STAR = (OSMPF+OSMPF(-1)+OSMPF(-2)+OSMPF(-3))/4
OSMPFV            OSMPFV = B0305-OSNHEV
OSMPS             OSMPS = OSMPF-OSMFI
OSMPSV            OSMPSV = OSMPFV-OSMFI
OSMPSV_DIS        OSMPSV_DIS = OSMPSV-C03A59-C03A74
OSMTC             OSMTC = IF YEAR(OSMTC) LT IFARG(2) THEN OSMTC*VALUE(OSMTC/B0403,IFARG(2))  ELSE OSMTC
OSMTCV            OSMTCV = IF YEAR(OSMTCV) GT IFARG(1) THEN OSMTCV*VALUE(OSMTCV/B0303,IFARG(1))  ELSE OSMTCV
OSMV              OSMV = B0303+B0305-OSNHEV
OSN               OSN = OSNHE+OSNP
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OSNHE               OSNHE = OVERLAY(OSNHE,LSNHE)
OSNHEV              OSNHEV = IF YEAR(OSNHEV) GT IFARG(1) THEN OSNHEV*VALUE(OSNHEV/(LSNHE*OSNPV/ LSNP),IFARG(1)) ELSE OSNHEV
OSNP                OSNP = B0404
OSNPV               OSNPV = B0304
OSNV                OSNV = OSNHEV+OSNPV
OSO                 OSO = B0403+B0405
OSOV                OSOV = B0303+B0305
PEN42               PEN42 = IF YEAR(PEN42) GT IFARG(1) THEN PEN42*VALUE(PEN42/PEN42_X,IFARG(1)) ELSE PEN42
PEN7I               PEN7I = IF YEAR(PEN7I) GT IFARG(1) THEN PEN7I*VALUE(PEN7I/PEN7,IFARG(1)) ELSE  PEN7I
PGCG                PGCG = GCGV/GCG
PGCG_DOT            PGCG_DOT = DEL(1 : PGCG)/PGCG(-1)*100
PGCGNP              PGCGNP = GCGNPV/GCGNP
PGCGOW              PGCGOW = WSNHE/VALUE(WSNHE,1985)
PGCGSHE             PGCGSHE = GCGSHEV/GCGSHE
PGCGSHE_DOT         PGCGSHE_DOT = DEL(1 : PGCGSHE)/PGCGSHE(-1)*100
PGCGW               POSNP = OSNPV/OSNP
PIAG                PIAG = IAGV/IAG
PIB                 PIB = IBV/IB
PIBC                PIBC = IBCV/IBC
PIBC_DOT            PIBC_DOT = DEL(1 : PIBC)/PIBC(-1)*100.
PIH                 PIH = IHV/IH
PIH_DOT             PIH_DOT = DEL(1 : PIH)/PIH(-1)*100.
PII                 PII = IIV/II
PIIB                PIIB = IIBV/IIB
PIIM                PIIM = IIMV/IIM
PIIMD               PIIMD = IIMDV/IIMD
PIIMF               PIIMF = IIMFV/IIMF
PIIMH               PIIMH = IIMHV/IIMH
PIIMT               PIIMT = IIMTV/IIMT
PIIU                PIIU = IIUV/IIU
PIME                PIME = IMEV/IME
PIME_DOT            PIME_DOT = DEL(1 : PIME)/PIME(-1)*100.
PIPA                PISNP = ISNPV/ISNP
PIS                 PIS = ISV/IS
PISCP               PISCP = ISCPV/ISCP
PISHE               PISNHE = ISNHEV/ISNHE
PISM                PISM = ISMV/ISM
PISMDI              PISMDI = ISMDIV/ISMDI
PISMDT              PISMDT = ISMDTV/ISMDT
PISMFI              PISMFI = ISMFIV/ISMFI
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PISMG            PISMG = ISMGV/ISMG
PISMGR           PISMGR = ISMGRV/ISMGR
PISMGW           PISMGW = ISMGWV/ISMGW
PISMPF           PISMPF = ISMPFV/ISMPF
PISMPS           PISMPS = ISMPSV/ISMPS
PISMTC           PISMTC = ISMTCV/ISMTC
PISN             PISN = ISNV/ISN
PISNE            PISNE = ISNEV/ISNE
PISNH            PISNH = ISNHV/ISNH
PISNHE           PISNHE = ISNHEV/ISNHE
PISNP            PISNP = ISNPV/ISNP
PITOT            PITOT = ITOTV/ITOT
PKH              PKH = PIH*(1-X.1)*(X.2+0.01275)/(1-RCORP1*0)
PKI              PKI = PII*(1-X.1)*(X.2+0.08)/(1-RCORP4)
PKIB             PKIB = PIIB*(1-X.1)*(X.2+0.15)/(1-RCORP1)
PKIMD            PKIMD = PIIMD*(1-X.1)*(X.2+0.08)/(1-RCORP4)
PKIMF            PKIMF = PIIMF*(1-X.1)*(X.2+0.08)/(1-RCORP4)
PKIMH            PKIMH = PIIMH*(1-X.1)*(X.2+0.1)/(1-RCORP3)
PKIMT            PKIMT = PIIMT*(1-X.1)*(X.2+0.08)/(1-RCORP4)
PKIU             PKIU = PIIU*(1-X.1)*(X.2+0.05)/(1-RCORP1)
PKSM             PKSM = PISM*(1-X.1)*(X.2+0.05)/(1-RCORP1)
PKSMDI           PKSMDI = PISMDI*(1-X.1)*(X.2+0.05)/(1-RCORP1)
PKSMDT           PKSMDT = PISMDT*(1-X.1)*(X.2+0.05)/(1-RCORP1)
PKSMFI           PKSMFI = PISMFI*(1-X.1)*(X.2+0.05)/(1-RCORP1)
PKSMPF           PKSMPF = PISMPF*(1-X.1)*(X.2+0.05)/(1-RCORP1)
PKSMPS           PKSMPS = PISMPS*(1-X.1)*(X.2+0.05)/(1-RCORP1)
PKSMTC           PKSMTC = PISMTC*(1-X.1)*(X.2+0.1)/(1-RCORP1)
POAG             POAG = POA
POI              POI = OIV/OI
POIB             POIB = OIBV/OIB
POIMT            POIMT = OIMTV/OIMT
POIU             POIU = OIUV/OIU
POPCNAE          POPCNAE = (NLE14+NLFED)/POPMMEMP
POPMNAE          POPMNAE = POPMMNAE/LNA
POPWNAE          POPWNAE = POPFMNAE/LNA
POSM             POSM = OSMV/OSM
POSMDI           POSMDI = OSMDIV/OSMDI
POSMDT           POSMDT = OSMDTV/OSMDT
POSMFI           POSMFI = OSMFIV/OSMFI
POSMPF           POSMPF = OSMPFV/OSMPF
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POSMPS              POSMPS = OSMPSV/OSMPS
POSMTC              POSMTC = OSMTCV/OSMTC
POSMTCM             POSMTCM = (OSMTCV-GCSCT)/OSMTC*VALUE(OSMTC/(OSMTCV-GCSCT),1985)
POSNHE              POSNHE = OSNHEV/OSNHE
POSNP               POSNP = OSNPV/OSNP
POSO                POSO = OSOV/OSO
PQEIMD              PQEIMD = IF YEAR(PQEIMD) GT IFARG(1) THEN PQEIMD*VALUE(PENT_X/PENT_XX,IFARG(1) ) ELSE PQEIMD
PQEIMF              PQEIMF = IF YEAR(PQEIMF) GT IFARG(1) THEN PQEIMF*VALUE(PENT_X/PENT_XX,IFARG(1) ) ELSE PQEIMF
PQEIMH              PQEIMH = IF YEAR(PQEIMH) GT IFARG(1) THEN PQEIMH*VALUE(PENT_X/PENT_XX,IFARG(1) ) ELSE PQEIMH
PQEIMT              PQEIMT = QEIMTV/QEIMT
PQGIB               PQGIB = QGIBV/QGIB*VALUE(QGIB/QGIBV,1985)
PQGIMD              PQGIMD = QGIMDV/QIMD*VALUE(QIMD/QGIMDV,1985)
PQGIMF              PQGIMF = QGIMFV/QIMF*VALUE(QIMF/QGIMFV,1985)
PQGIMF_UK           PQGIMF_UK = COMPACT(UK_M_E9471002,0,1)/VALUE(COMPACT(UK_M_E9471002,0,1),1985)
PQGIMH              PQGIMH = QGIMHV/QIMH*VALUE(QIMH/QGIMHV,1985)
PQGIMRES            PQGIMRES = QGIMRESV/QIMFRES*VALUE(QIMFRES/QGIMRESV,1985)
PQGIMT              PQGIMT = QGIMTV/QGIMT*VALUE(QGIMT/QGIMTV,1985)
PQGIMT_GER          PQGIMT_GER = COMPACT(GER_M_E947000P,0,1)/VALUE(COMPACT(GER_M_E947000P,0,1), 1985)
PQGIMT_UK           PQGIMT_UK = COMPACT(UK_M_E9471000,0,1)/VALUE(COMPACT(UK_M_E9471000,0,1),1985)
PQGIMT_USA          PQGIMT_USA = COMPACT(USA_M_E9470000,0,1)/VALUE(COMPACT(USA_M_E9470000,0,1), 1985)
PQGIM412            PQGIM412 = QGIM412V/QIMF412*VALUE(QIMF412/QGIM412V,1985)
PQGIM413            PQGIM413 = QGIM413V/QIMF413*VALUE(QIMF413/QGIM413V,1985)
PQGIT               PQGIMT = QGIMTV/QGIMT*VALUE(QGIMT/QGIMTV,1985)
PQGIU               PQGIU = QGIUV/QIU*VALUE(QIU/QGIUV,1985)
PQMIB               PQMIB = PQMIB/VALUE(PQMIB,1985)
PQMIU               PQMIU = PQMIU/VALUE(PQMIU,1985)
PQNIB               PQNIB = QNIBV/QNIB
PQNIMD              PQNIMD = QNIMDV/QNIMD
PQNIMF              PQNIMF = QNIMFV/QNIMF
PQNIMH              PQNIMH = QNIMHV/QNIMH
PQNIMRES            PQNIMRES = QNIMRESV/QNIMRES
PQNIMT              PQNIMT = QNIMTV/QNIMT
PQNIM412            PQNIM412 = QNIM412V/QNIM412
PQNIM413            PQNIM413 = QNIM413V/QNIM413
PQNIU               PQNIU = QNIUV/QNIU
PQRIMD              PQRIMD = PQRIMD/VALUE(PQRIMD,1985)
PQRIMF              PQRIMF = PQRIMF/VALUE(PQRIMF,1985)
PQRIMH              PQRIMH = PQRIMH/VALUE(PQRIMH,1985)
PQRIMT              PQRIMT = QRIMTV/QRIMT
PQTI                PQGIMT = QGIMTV/QGIMT*VALUE(QGIMT/QGIMTV,1985)
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PYAFS              PYAFS = YAFS/YRAFS
QEIMD              QEIMD = QEIMDV/PQEIMD
QEIMDV             QEIMDV = OVERLAY(QEIMDV_X,QEIMDV)
QEIMD1V            QEIMD1V = (QEIMDT1V_NC+QEIMCF1V_NC+QEIMTX1V_NC+QEIMWD1V_NC+QEIMPP1V_NC+ QEIMGL1V_NC+QEIMOT1V_NC+QEIMHQ1V_NC)/10**3
QEIMD4V            QEIMD4V = (QEIMDT4V_NC+QEIMCF4V_NC+QEIMTX4V_NC+QEIMWD4V_NC+QEIMPP4V_NC+ QEIMGL4V_NC+QEIMOT4V_NC+QEIMMQ4V_NC)/10**3
QEIMD7V            QEIMD7V = (QEIMDT7V_NC+QEIMCF7V_NC+QEIMTX7V_NC+QEIMWD7V_NC+QEIMPP7V_NC+ QEIMGL7V_NC+QEIMOT7V_NC+QEIMMQ7V_NC)/10**3
QEIMD9V            QEIMD9V = QEIMDV_X-QEIMD1V-QEIMD4V-QEIMD7V
QEIMF              QEIMF = QEIMFV/PQEIMF
QEIMFV             QEIMFV = OVERLAY(QEIMFV_X,QEIMFV)
QEIMF1V            QEIMF1V = QEIMF1V_NC/10**3
QEIMF4V            QEIMF4V = QEIMF4V_NC/10**3
QEIMF7V            QEIMF7V = QEIMF7V_NC/10**3
QEIMF9V            QEIMF9V = QEIMFV_X-QEIMF1V-QEIMF4V-QEIMF7V
QEIMH              QEIMH = QEIMHV/PQEIMH
QEIMHV             QEIMHV = OVERLAY(QEIMHV_X,QEIMHV)
QEIMH1V            QEIMH1V = (QEIMCH1V_NC+QEIMMM1V_NC)/10**3
QEIMH4V            QEIMH4V = (QEIMCH4V_NC+QEIMMM4V_NC)/10**3
QEIMH7V            QEIMH7V = (QEIMCH7V_NC+QEIMMM7V_NC)/10**3
QEIMH9V            QEIMH9V = QEIMHV_X-QEIMH1V-QEIMH4V-QEIMH7V
QEIMRES            QEIMRES = QEIMRESV/PQEIMF
QEIMRESV           QEIMRESV = OVERLAY(QEIMRESV_X,QEIMRESV)
QEIMRESV_OC        QEIMRESV_OC = QEIMFV_XOC-QEIM412V_OC-QEIM413V_OC
QEIMT              QEIMT = QEIMF+QEIMD+QEIMH
QEIMTV             QEIMTV = QEIMFV+QEIMHV+QEIMDV
QEIM1V             QEIM1V = QEIMF1V+QEIMH1V+QEIMD1V
QEIM4V             QEIM4V = QEIMF4V+QEIMH4V+QEIMD4V
QEIM412            QEIM412 = QEIM412V/PQEIMF
QEIM412V           QEIM412V = OVERLAY(QEIM412V_X,QEIM412V)
QEIM412V_OC        QEIM412V_OC = (ENGY04_OC+ENGY05_OC)/10**6
QEIM413            QEIM413 = QEIM413V/PQEIMF
QEIM413V           QEIM413V = OVERLAY(QEIM413V_X,QEIM413V)
QEIM413V_OC        QEIM413V_OC = ENGY06_OC/10**6
QEIM7V             QEIM7V = QEIMF7V+QEIMH7V+QEIMD7V
QEIM9V             QEIM9V = QEIMF9V+QEIMH9V+QEIMD9V
QGA_E              QGA_E = (QGA+QGA(-1)+QGA(-2))/3
QGIB               QGIB = B1701+B1702+B1703
QGIB_CURA          QGIB_CURA = QGIB/(QGIB*QGIB(-1)*QGIB(-2)*QGIB(-3)*QGIB(-4)*QGIB(-5))**(1/6)
QGIBV              QGIBV = B1501+B1502+B1503
QGIMCFV            QGIMCFV = IF YEAR(QGIMCFV) LT IFARG(2) THEN QGIMCFV*VALUE(AIAA074/QGIMCFV_OC, ELSE QGIMCFV
QGIMCH_OECD        QGIMCH_OECD = IF YEAR(QGIMCH_OECD) LT 1975 THEN QGIMCH_OECD*VALUE(QGIMCH_OECD/ QGIMCH1_OECD,1975) ELSE QGIMCH_OECD
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QGIMCHV           QGIMCHV = IF YEAR(QGIMCHV) LT IFARG(2) THEN QGIMCHV*VALUE(AIAA016/QGIMCHV_OC, IFARG(2)) ELSE QGIMCHV
QGIMD             QGIMD = VALUE(QGIMDV,1985)*QIMD
QGIMDTV           QGIMDTV = IF YEAR(QGIMDTV) LT IFARG(2) THEN QGIMDTV*VALUE(AIAA061/QGIMDTV_OC, IFARG(2)) ELSE QGIMDTV
QGIMDV            QGIMDV = QGIMTXV+QGIMCFV+QGIMWDV+QGIMPPV+QGIMGLV+QGIMOTV+QGIMDTV+QGIMMQV- QMIMREFV
QGIMF             QGIMF = VALUE(QGIMFV,1985)*QIMF
QGIMFV            QGIMFV = IF YEAR(QGIMFV) LT IFARG(2) THEN QGIMFV*VALUE(AIAA049/QGIMFV_OC,IFARG (2)) ELSE QGIMFV
QGIMGLV           QGIMGLV = IF YEAR(QGIMGLV) LT IFARG(2) THEN QGIMGLV*VALUE(AIAA012/QGIMGLV_OC, IFARG(2)) ELSE QGIMGLV
QGIMH             QGIMH = VALUE(QGIMHV,1985)*QIMH
QGIMH_OECD        FROM 1975 ON THIS SERIES IS DERIVED AS A WEIGHTED AVG OF THE OUTPUT VOLUME SERIES FOR CHEM. AND MET & ENG. FROM THE OECDQIN
                  DBASE. (THE WGHTS REPRESENT THE VALUE OF OUTPUT IN 1975 OF CHEM (0.25) AND MET.& ENG (0.75). FOR EC AND USA.
QGIMH_OECD_CUR    QGIMH_OECD_CUR = QGIMH_OECD/(QGIMH_OECD+QGIMH_OECD(-1)+QGIMH_OECD(-2)+ QGIMH_OECD(-3))*4
QGIMHV            QGIMHV = QGIMCHV+QGIMMHV
QGIMMM_OECD       QGIMMM_OECD = IF YEAR(QGIMMM_OECD) LT 1975 THEN QGIMMM_OECD*VALUE(QGIMMM_OECD/ QGIMMM1_OECD,1975) ELSE QGIMMM_OECD
QGIMMHV           QGIMMHV = IF YEAR(QGIMMHV) LT IFARG(2) THEN QGIMMHV*VALUE(AIAA023/QGIMMHV_OC, IFARG(2)) ELSE QGIMMHV
QGIMMQV           QGIMMQV = IF YEAR(QGIMMQV) LT IFARG(2) THEN QGIMMQV*VALUE(AIAA004/QGIMMQV_OC, IFARG(2)) ELSE QGIMMQV
QGIMOTV           QGIMOTV = IF YEAR(QGIMOTV) LT IFARG(2) THEN QGIMOTV*VALUE(AIAA092/QGIMOTV_OC, IFARG(2)) ELSE QGIMOTV
QGIMPPV           QGIMPPV = IF YEAR(QGIMPPV) LT IFARG(2) THEN QGIMPPV*VALUE(AIAA089/QGIMPPV_OC, IFARG(2)) ELSE QGIMPPV
QGIMREFV          QGIMREFV = AIAA093
QGIMRESV          QGIMRESV = QGIMFV-QGIM412V-QGIM413V
QGIMT             QGIMT = QGIMH+QGIMD+QGIMF
QGIMT_EC          QGIMT_EC = COMPACT(EEC_M_H9210000,0,1)/VALUE(COMPACT(EEC_M_H9210000,0,1),1985)
QGIMT_EC_CUR      QGIMT_EC_CUR = QGIMT_EC/(QGIMT_EC+QGIMT_EC(-1)+QGIMT_EC(-2)+QGIMT_EC(-3))*4
QGIMT_GER         QGIMT_GER = DEU_Y_INDPRO/VALUE(DEU_Y_INDPRO,1985)
QGIMT_OECD        QGIMT_OECD = IF YEAR(QGIMT_OECD) LT IFARG(2) THEN QGIMT_OECD*VALUE(X.1/X.2, IFARG(2)) ELSE QGIMT_OECD
QGIMT_OECD_CUR    QGIMT_OECD_CUR = QGIMT_OECD/(QGIMT_OECD+QGIMT_OECD(-1)+QGIMT_OECD(-2)+ QGIMT_OECD(-3))*4
QGIMT_OECD_E      QGIMT_OECD_E = (QGIMT_OECD+QGIMT_OECD(-1)+QGIMT_OECD(-2))/3
QGIMT_UK          QGIMT_UK = GBR_Y_INDPRO/VALUE(GBR_Y_INDPRO,1985)
QGIMT_USA         QGIMT_USA = USA_Y_INDPRO/VALUE(USA_Y_INDPRO,1985)
QGIMTV            QGIMTV = QGIMHV+QGIMDV+QGIMFV
QGIMTXV           QGIMTXV = IF YEAR(QGIMTXV) LT IFARG(2) THEN QGIMTXV*VALUE(AIAA067/QGIMTXV_OC, IFARG(2)) ELSE QGIMTXV
QGIMV             QGIMV = QGIMTV-QGIMMQV
QGIMWDV           QGIMWDV = IF YEAR(QGIMWDV) LT IFARG(2) THEN QGIMWDV*VALUE(AIAA083/QGIMWDV_OC, IFARG(2)) ELSE QGIMWDV
QGIM412V          QGIM412V = IF YEAR(QGIM412V) LT IFARG(2) THEN QGIM412V*VALUE(AIAA051/ QGIM412V_OC,IFARG(2)) ELSE QGIM412V
QGIM412V_OC       QGIM412V_OC = QGIMFBFV_OC+QGIMFMTV_OC
QGIM413V          QGIM413V = IF YEAR(QGIM413V) LT IFARG(2) THEN QGIM413V*VALUE(AIAA052/ QGIM413V_OC,IFARG(2)) ELSE QGIM413V
QGIM413V_OC       QGIM413V_OC = QGIMFDYV_OC
QGIU              QGIU = QIU*VALUE(QGIUV/QIU,1985)
QGIUV             QGIUV = QGIUV+QMIMREFV
QIM               QIM = QIM/VALUE(QIM,1985)
QIMCF             QIMCF = QIMCF/VALUE(QIMCF,1985)
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QIMCH               QIMCH = QIMCH/VALUE(QIMCH,1985)
QIMD                QIMD = QIMD/VALUE(QIMD,19850
QIMDT               QIMDT = QIMDT/VALUE(QIMDT,1985)
QIMF                QIMF = QIMF/VALUE(QIMF,1985)
QIMFRES             QIMFRES = QNIMRES/VALUE(QNIMRESV,1985)
QIMF412             QIMF412 = QIMF412/VALUE(QIMF412,1985)
QIMF412_OC          QIMF412_OC = QIMF412_OC/VALUE(QIMF412_OC,1973)
QIMF413             QIMF413 = QIMF413/VALUE(QIMF413,1985)
QIMF413_OC          QIMF413_OC = QIMFDY_OC
QIMGL               QIMGL = QIMGL/VALUE(QIMGL,1985)
QIMH                QIMH = QIMH/VALUE(QIMH,1985)
QIMMM               QIMMM = QIMMM/VALUE(QIMMM,1985)
QIMMQ               QIMMQ = QIMMQ/VALUE(QIMMQ,1985)
QIMOT               QIMOT = QIMOT/VALUE(QIMOT,1985)
QIMPP               QIMPP = QIMPP/VALUE(QIMPP,1985)
QIMT                QIMT = QIMT/VALUE(QIMT,1985)
QIMTX               QIMTX = QIMTX/VALUE(QIMTX,1985)
QIMWD               QIMWD = QIMWD/VALUE(QIMWD,1985)
QIREF               QIREF = OVERLAY(QIREF,MIAA038)
QIU                 QIU = QIU/VALUE(QIU,1985)
QMIB                QMIB = QMIBV/PQMIB
QMIBV               QMIBV = QGIBV-QNIBV
QMIMCFV             QMIMCFV = IF YEAR(QMIMCFV) LT IFARG(2) THEN QMIMCFV*VALUE(AIAA224/QMIMCFV_OC, IFARG(2)) ELSE QMIMCFV
QMIMCHV             QMIMCHV = IF YEAR(QMIMCHV) LT IFARG(2) THEN QMIMCHV*VALUE(AIAA166/QMIMCHV_OC, IFARG(2)) ELSE QMIMCHV
QMIMDTV             QMIMDTV = IF YEAR(QMIMDTV) LT IFARG(2) THEN QMIMDTV*VALUE(AIAA211/QMIMDTV_OC, IFARG(2)) ELSE QMIMDTV
QMIMDV              QMIMDV = QMIMTXV+QMIMCFV+QMIMWDV+QMIMPPV+QMIMGLV+QMIMOTV+QMIMDTV+QMIMMQV- QMIMREFV
QMIMFV              QMIMFV = IF YEAR(QMIMFV) LT IFARG(2) THEN QMIMFV*VALUE(AIAA199/QMIMFV_OC,IFARG (2)) ELSE QMIMFV
QMIMGLV             QMIMGLV = IF YEAR(QMIMGLV) LT IFARG(2) THEN QMIMGLV*VALUE(AIAA162/QMIMGLV_OC, IFARG(2)) ELSE QMIMGLV
QMIMHV              QMIMHV = QMIMCHV+QMIMMMV
QMIMMMV             QMIMMMV = IF YEAR(QMIMMMV) LT IFARG(2) THEN QMIMMMV*VALUE(AIAA173/QMIMMMV_OC, IFARG(2)) ELSE QMIMMMV
QMIMMQV             QMIMMQV = IF YEAR(QMIMMQV) LT IFARG(2) THEN QMIMMQV*VALUE(AIAA154/QMIMMQV_OC, IFARG(2)) ELSE QMIMMQV
QMIMOTV             QMIMOTV = IF YEAR(QMIMOTV) LT IFARG(2) THEN QMIMOTV*VALUE(AIAA242/QMIMOTV_OC, IFARG(2)) ELSE QMIMOTV
QMIMPPV             QMIMPPV = IF YEAR(QMIMPPV) LT IFARG(2) THEN QMIMPPV*VALUE(AIAA239/QMIMPPV_OC, IFARG(2)) ELSE QMIMPPV
QMIMREFV            QMIMREFV = IF YEAR(QMIMREFV) GT IFARG(1) THEN QMIMREFV*VALUE(QMIMREFV/M333V, IFARG(1)) ELSE QMIMREFV
QMIMRESV            QMIMRESV = QMIMFV-QMIM412V-QMIM413V
QMIMTV              QMIMTV = QMIMHV+QMIMDV+QMIMFV
QMIMTXV             QMIMTXV = IF YEAR(QMIMTXV) LT IFARG(2) THEN QMIMTXV*VALUE(AIAA217/QMIMTXV_OC, IFARG(2)) ELSE QMIMTXV
QMIMV               QMIMV = QMIMTV-QMIMMQV
QMIMWDV             QMIMWDV = IF YEAR(QMIMWDV) LT IFARG(2) THEN QMIMWDV*VALUE(AIAA233/QMIMWDV_OC, IFARG(2)) ELSE QMIMWDV
QMIM412V            QMIM412V = IF YEAR(QMIM412V) LT IFARG(2) THEN QMIM412V*VALUE(AIAA201/ QMIM412V_OC,IFARG(2)) ELSE QMIM412V
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QMIM412V_OC        QMIM412V_OC = QMIMFBFV_OC+QMIMFMTV_OC
QMIM413V           QMIM413V = IF YEAR(QMIM413V) LT IFARG(2) THEN QMIM413V*VALUE(AIAA202/ QMIM413V_OC,IFARG(2)) ELSE QMIM413V
QMIM413V_OC        QMIM413V_OC = QMIMFDYV_OC
QMIU               QMIU = QMIUV/PQMIU
QMIUV              QMIUV = QGIUV-QNIUV
QNELECV            QNIUEV = IF YEAR(QNIUEV) LT IFARG(2) THEN QNIUEV*VALUE(AIAA310/QNIUEV_OC,IFARG (2)) ELSE QNIUEV
QNGASV             QNIUGV = IF YEAR(QNIUGV) LT IFARG(2) THEN QNIUGV*VALUE(AIAA309/QNIUGV_OC,IFARG (2)) ELSE QNIUGV
QNIB               QNIB = QGIB-QMIB
QNIBV              QNIBV = QGIBV-QMIBV
QNIMCFV            QNIMCFV = QGIMCFV-QMIMCFV
QNIMCHV            QNIMCHV = QGIMCHV-QMIMCHV
QNIMD              QNIMD = QGIMD-QEIMD-QRIMD
QNIMDTV            QNIMDTV = QGIMDTV-QMIMDTV
QNIMDV             QNIMDV = QNIMTXV+QNIMCFV+QNIMWDV+QNIMPPV+QNIMGLV+QNIMOTV+QNIMDTV+QNIMMQV
QNIMF              QNIMF = QGIMF-QEIMF-QRIMF
QNIMFV             QNIMFV = QGIMFV-QMIMFV
QNIMGLV            QNIMGLV = QGIMGLV-QMIMGLV
QNIMH              QNIMH = QGIMH-QEIMH-QRIMH
QNIMHV             QNIMHV = QNIMCHV+QNIMMHV
QNIMMHV            QNIMMHV = QGIMMHV-QMIMMHV
QNIMMQV            QNIMMQV = QGIMMQV-QMIMMQV
QNIMOTV            QNIMOTV = QGIMOTV-QMIMOTV
QNIMPPV            QNIMPPV = QGIMPPV-QMIMPPV
QNIMREFV           QNIMREFV = QGIMREFV-QMIMREFV
QNIMRES            QNIMRES = QNIMF-QNIM412-QNIM413
QNIMRESV           QNIMRESV=QNIMFV-QNIM412V-QNIM413V
QNIMT              QNIMT = QNIMH+QNIMF+QNIMD
QNIMTV             QNIMTV = QNIMHV+QNIMDV+QNIMFV
QNIMTXV            QNIMTXV = QGIMTXV-QMIMTXV
QNIMV              QNIMV = QNIMTV-QNIMMQV
QNIMWDV            QNIMWDV = QGIMWDV-QMIMWDV
QNIM412            QNIM412 = VALUE(QNIM412V,1985)*QIMF412
QNIM412V           QNIM412V = QGIM412V-QMIM412V
QNIM413            QNIM413 = VALUE(QNIM413V,1985)*QIMF413
QNIM413V           QNIM413V = QGIM413V-QMIM413V
QNIU               QNIU = QGIU-QMIU
QNIUEV             QNIUEV = IF YEAR(QNIUEV) LT IFARG(2) THEN QNIUEV*VALUE(AIAA310/QNIUEV_OC,IFARG (2)) ELSE QNIUEV
QNIUGV             QNIUGV = IF YEAR(QNIUGV) LT IFARG(2) THEN QNIUGV*VALUE(AIAA309/QNIUGV_OC,IFARG (2)) ELSE QNIUGV
QNIUV              QNIUV = QGIUV-QMIUV
QNIUWV             QNIUWV = IF YEAR(QNIUWV) LT IFARG(2) THEN QNIUWV*VALUE(AIAA311/QNIUWV_OC,IFARG (2)) ELSE QNIUWV
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QNWATV          QNIUWV = IF YEAR(QNIUWV) LT IFARG(2) THEN QNIUWV*VALUE(AIAA311/QNIUWV_OC,IFARG (2)) ELSE QNIUWV
QRIMD           QRIMD = QRIMDV/PQRIMD
QRIMDV          QRIMDV = QMIMDV-QEIMDV
QRIMF           QRIMF = QRIMFV/PQRIMF
QRIMFV          QRIMFV = QMIMFV-QEIMFV
QRIMH           QRIMH = QRIMHV/PQRIMH
QRIMHV          QRIMHV = QMIMHV-QEIMHV
QRIMRES         QRIMRES = QRIMRESV/PQRIMF
QRIMRESV        QRIMRESV = QMIMRESV-QEIMRESV
QRIMT           QRIMT = QRIMF+QRIMH+QRIMD
QRIMTV          QRIMTV = QRIMFV+QRIMDV+QRIMHV
QRIM412         QRIM412 = QRIM412V/PQRIMF
QRIM412V        QRIM412V = QMIM412V-QEIM412V
QRIM413         QRIM413 = QRIM413V/PQRIMF
QRIM413V        QRIM413V = QMIM413V-QEIM413V
QWIMD           QWIMD = EXP(0.607*LOG(FDWQGIMD/VALUE(FDWQGIMD,1985))+0.171*LOG(QGIMT_UK/VALUE( QGIMT_UK,1985))+0.097*LOG(QGIMT_USA/VA-
                LUE(QGIMT_USA,1985))+0.125*LOG(QGIMT_GER /VALUE(QGIMT_GER,1985)))
QWIMD_CUR       QWIMD_CAP = QWIMD/(QWIMD+QWIMD(-1)+QWIMD(-2)+QWIMD(-3))*4
QWIMD_E         QWIMD_E = (QWIMD+QWIMD(-1)+QWIMD(-2))/3
RATWI           RATWI = WI*RETRAT/PC
RATWSM          RATWSM = WSM*RETRAT/PC
RAW             RAW = WAIMP/WNA
RDEBT           RDEBT = GNT/GNPV*100
RDEBTF          RDEBTF = 100*GNF/GNPV
RDEBTFL         RDEBTFL = 1000*GNF/LTOT
RDEBTFNT        RDEBTFNT = 1000*GNF/NT
RDEBTFX         RDEBTFX = 100*GNF/XGSV
RDEBTL          RDEBTL = 1000*GNT/LTOT
RDEBTNT         RDEBTNT = 1000*GNT/NT
RDEBTX          RDEBTX = 100*GNT/XGSV
RDEPEND         RDEPEND = 100*(NLE14+NGE65+NLFED)/N1564A
RE              RE = (1-UR/100)/(1-URUK/100)
RETRAT          RETRAT = 1-RTYPTOT
REX_GER         REX_GER = COMPACT(GER_M_EA571200/IRL_M_EA571200,0,1)
REX_UK          REX_UK = COMPACT(UK_M_EA571200/IRL_M_EA571200,0,1)
REX_USA         REX_USA = COMPACT(1/IRL_M_EA571200,0,1)
RFFAQC          RFFAQC = 100*(FFAQC/FFSC)
RFFAQH          RFFAQH = 100*(FFAQH/FFSH)
RFFAQT          RFFAQT = 100*(FFAQT/(FFSH+FFSC))
RFFGAQT         RFFGAQT = 100*DEL(1 : GNBB+GNBP+GNSS)/(FFSH+FFSC)
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RGC	RGC = GC/GNPV*100
RGTTAX	RGTTAX = (GTE+GTY+GTW)/GNPV*100
RGTTOT	RGTTOT = GTTOT/GNPV*100
RGTYC	RGTYC = GTYC/YC(-1)
RGTYSE	RGTYSE = GTYSE/(YWSM+YWI)
RGTYSL	RGTYSL = RGTYSE+RGTYSP
RGTYSP	RGTYSP = GTYSP/(YWSM+YWI)
RR	RR = 100*(R/MTV)
RTYPER	RTYPER = GTYPER/YPERT
RTYPERM	RTYPERM = DEL(1 : GTYPER)/DEL(1 : YPERT)
RTYPTOT	RTYPTOT = RTYPER+RGTYSP
RW	RW = WIR/VALUE(WIR,1985)/WIRUK
RWN	RWN = RETRAT*RW
RYCSM	RYCSM = POSM/UCLSM
SAV	SAV = YPERD-CV
SAVC	SAVC = YCU-GTYC
SAVG	SAVG = SAVNET+DEP+BPTCK-BP
SAVNET	SAVNET = SAVTOT-YASA
SAVRAT	SAVRAT = 100*(1-CV/YPERD)
SAVTOT	SAVTOT = SAV+SAVC+GBRC
TOTRADE	TOTRADE = PXT/PMT
TYEAR	TYEAR = YEAR( )
T70	T70 = YEAR(TYEAR)-1969
U	U = LP-L
UCLI	UCLI = YWI/OI
UCLI_DOT	UCLI_DOT = DEL(1 : UCLI)/UCLI(-1)*100
UCLIB	UCLIB = YWIB/OIB
UCLIDOT	UCLI_DOT = DEL(1 : UCLI)/UCLI(-1)*100
UCLIMT	UCLIMT = YWIMT/OIMT
UCLIU	UCLIU = YWIU/OIU
UCLSM	UCLSM = YWSM/OSM
UCLSMDI	UCLSMDI = YWSMDI/OSMDI
UCLSMDT	UCLSMDT = YWSMDT/OSMDT
UCLSMPI	UCLSMPI = YWSMPI/OSMPI
UCLSMPF	UCLSMPF = YWSMPF/OSMPF
UCLSMPS	UCLSMPS = YWSMPS/OSMPS
UCLSMTC	UCLSMTC = YWSMTC/OSMTC
UCLSNHE	UCLSNHE = YWSNHE/OSNHE
UCLSNP	UCLSNP = YWSNP/OSNP
UCLSO	UCLSO = YWSO/OSO

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UR                 UR = U/LF*100
URBAR              URBAR = (UR+UR(-1))/2.
URNAT              URNAT = SUM(I = -3 TO 0 : UR(I))/4
WAIMP              WAIMP = YA/LA
WEDGE              WEDGE = PC/PQGIMT*(1+RGTYSE)/(1-RTYPTOT)
WI                 WI = YWI/LI
WI_DOT             WI_DOT = DEL(1 : WI)/WI(-1)*100.
WIB                WIB = YWIB/LIB
WIMD               WIMD = YWIMD/LIMD
WIMF               WIMF = YWIMF/LIMF
WIMFRES            WIMFRES = YWIMFRES/LIMFRES
WIMF412            WIMF412 = YWIMF412/LIMF412
WIMF413            WIMF413 = YWIMF413/LIMF413
WIMH               WIMH = YWIMH/LIMH
WIMT               WIMT = YWIMT/LIMT
WIMT_GER           WIMT_GER = DEU_Y_WRMAN
WIMT_UK            WIMT_UK = GBR_Y_WRMAN
WIMT_USA           WIMT_USA = USA_Y_WRMAN
WIR                WIR = WI/PC
WIRDOT             WIRDOT = DEL(1 : WIR)/WIR(-1)*100
WIU                WIU = YWIU/LIU
WR1                WR1 = GTYSE/GTYSL
WL1                WL1 = GTEMVDC/GTMVD
WNA                WNA = YWNA/LNA
WNA_DOT            WNA_DOT = DEL(1 : WNA)/WNA(-1)*100.
WRELPA             WRELPA = WSNP/WI
WRELSHE            WRELSHE = WSNHE/WSNP
WSM                WSM = YWSM/LSM
WSM_DOT            WSM_DOT = DEL(1 : WSM)/WSM(-1)*100.
WSMDI              WSMDI = YWSMDI/LSMDI
WSMDT              WSMDT = YWSMDT/LSMDT
WSMPI              WSMPI = YWSMPI/LSMFI
WSMPF              WSMPF = YWSMPF/LSMPF
WSMPS              WSMPS = YWSMPS/LSMPS
WSMTC              WSMTC = YWSMTC/LSMTC
WSNHE              WSNHE = YWSNHE/LSNHE
WSNP               WSNP = YWSNP/LSNP
WSO                WSO = YWSO/LSO
WTIME              WTIME = IME/(ITOT-IH)
X3_DIS             X3_DIS = X3V/(PM3*ENX_T)
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YAFS          YAFS = -B0114
YAG           YAG = YA
YC            YC = YCIN+YCSON+YASA
YCI           YCI = OIV-YWI
YCIB          YCIB = OIBV-YWIB
YCIMD_NC      YCIMD_NC = QNIMDV-YWIMD
YCIMF_NC      YCIMF_NC = QNIMFV-YWIMF
YCIMFRES_NC   YCIMFRES_NC = QNIMRESV-YWIMFRES
YCIMF412_NC   YCIMF412_NC = QNIM412V-YWIMF412
YCIMF413_NC   YCIMF413_NC = QNIM413V-YWIMF413
YCIMH_NC      YCIMH_NC = QNIMHV-YWIMH
YCIMT         YCIMT = OIMTV-YWIMT
YCIN          YCIN = YCI-DEPI
YCIU          YCIU = OIUV-YWIU
YCR           YCR = YC/PITOT
YCSHE         YCSHE = OSNHEV-YWSNHE
YCSM          YCSM = OSMV-YWSM
YCSMDI        YCSMDI = OSMDIV-YWSMDI
YCSMDT        YCSMDT = OSMDTV-YWSMDT
YCSMFI        YCSMFI = OSMFIV-YWSMFI
YCSMPF        YCSMPF = OSMPFV-YWSMPF
YCSMPS        YCSMPS = OSMPSV-YWSMPS
YCSMTC        YCSMTC = OSMTCV-YWSMTC
YCSNHE        YCSNHE = OSNHEV-YWSNHE
YCSNP         YCSNP = OSNPV-YWSNP
YCSO          YCSO = OSOV-YWSO
YCSON         YCSON = YCSO-DEPS
YCU           YCU = B0906
YRAFS         YRAFS = -B0406
YSEAG         YSEAG = KYSEAG*YA
YWAG          YWAG = YWA
YWI           YWI = B0203
YWI_DIS       YWI_DIS = YWI-YWIB-YWIU-YWIMT
YWIB          YWIB = IF YEAR(YWIB) LT IFARG(2) THEN YWIB*VALUE(YWIB/(LIB*YWI/LI),IFARG(2))  ELSE YWIB
YWIMCF        YWIMCF = IF YEAR(YWIMCF) LT IFARG(2) THEN YWIMCF*VALUE(AIAA524/YWIMCF_OC,IFARG (2)) ELSE YWIMCF
YWIMCH        YWIMCH = IF YEAR(YWIMCH) LT IFARG(2) THEN YWIMCH*VALUE(AIAA466/YWIMCH_OC,IFARG (2)) ELSE YWIMCH
YWIMD         YWIMD = YWIMD_NC*YWIMT_X
YWIMD_NC      YWIMD_NC = YWIMHQ+YWIMDT+YWIMWD+YWIMTX+YWIMCF+YWIMPP+YWIMGL+YWIMOT
YWIMDT        YWIMDT = IF YEAR(YWIMDT) LT IFARG(2) THEN YWIMDT*VALUE(AIAA511/YWIMDT_OC,IFARG (2)) ELSE YWIMDT
YWIMF         YWIMF = YWIMF_NC*YWIMT_X
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YWIMF_NC          YWIMF_NC = YWIMF
YWIMFRES          YWIMFRES = YWIMFRES_NC*YWIMF_X
YWIMFRES_NC       YWIMFRES_NC = YWIMF-YWIMF412-YWIMF413
YWIMF412          YWIMF412 = YWIMF412_NC*YWIMF_X
YWIMF412_NC       YWIMF412_NC = YWIMF412
YWIMF412_OC       YWIMF412_OC = YWIMFBF_OC+YWIMFMT_OC
YWIMF413          YWIMF413 = YWIMF413_NC*YWIMF_X
YWIMF413_NC       YWIMF413_NC = YWIMF413
YWIMF413_OC       YWIMF413_OC = YWIMFDY_OC
YWIMGL            YWIMGL = IF YEAR(YWIMGL) LT IFARG(2) THEN YWIMGL * VALUE (AIAA462 / YWIMGL_OC, IFARG(2)), ELSE YWIMGL
YWIMH             YWIMH = YWIMH_NC*YWIMT_X
YWIMH_NC          YWIMH_NC = YWIMCH+YWIMMM
YWIMMM            YWIMMM = IF YEAR(YWIMMM) LT IFARG(2) THEN YWIMMM*VALUE(AIAA473/YWIMMM_OC,IFARG (2)) ELSE YWIMMM
YWIMMQ            YWIMMQ = IF YEAR(YWIMMQ) LT IFARG(2) THEN YWIMMQ*VALUE(AIAA454/YWIMMQ_OC,IFARG (2)) ELSE YWIMMQ
YWIMOT            YWIMOT = IF YEAR(YWIMOT) LT IFARG(2) THEN YWIMOT*VALUE(AIAA542/YWIMOT_OC,IFARG (2)) ELSE YWIMOT
YWIMPP            YWIMPP = IF YEAR(YWIMPP) LT IFARG(2) THEN YWIMPP*VALUE(AIAA539/YWIMPP_OC,IFARG (2)) ELSE YWIMPP
YWIMT             YWIMT = IF YEAR(YWIMT) LT IFARG(2) THEN YWIMT*VALUE(C03B30/(YWIMT_NC/(1-RGTYSE )),IFARG(2)) ELSE YWIMT
YWIMT_DIS         YWIMT_DIS = YWIMT-YWIMF-YWIMD-YWIMH
YWIMT_NC          YWIMT_NC = YWIMH_NC+YWIMD_NC+YWIMF_NC
YWIMTX            YWIMTX = IF YEAR(YWIMTX) LT IFARG(2) THEN YWIMTX*VALUE(AIAA517/YWIMTX_OC,IFARG (2)) ELSE YWIMTX
YWIMWD            YWIMWD = IF YEAR(YWIMWD) LT IFARG(2) THEN YWIMWD*VALUE(AIAA533/YWIMWD_OC,IFARG (2)) ELSE YWIMWD
YWIU              YWIU = IF YEAR(YWIU) LT IFARG(2) THEN YWIU*VALUE(C03B06/(YWIU_NC/(1-RGTYSE)), IFARG(2)) ELSE YWIU
YWIU_DIS          YWIU_DIS = YWIU-YWIU_NC
YWIU_NC           YWIU_NC = YWIU
YWNA              YWNA = YW1+YWSO+YWSNP
YWPA              YWSNP = B0207
YWSHE             YWSNHE = IF YEAR(YWSNHE) GT IFARG(1) THEN YWSNHE*VALUE(YWSNHE/(LSNHE*YWSNP/ LSNP),IFARG(1)) ELSE YWSNHE
YWSM              YWSM = YWSMDT+YWSMPF
YWSMDI            YWSMDI = IF YEAR(YWSMDI) LT IFARG(2) THEN YWSMDI*VALUE(YWSMDI/(LSMDI*YWSMDT/ LSMDT),IFARG(2)) ELSE YWSMDI
YWSMDT            YWSMDT = B0205
YWSMDT_DIS        YWSMDT_DIS = YWSMDT-YWSMDI-C03B61-C03B63-C03B65-C03B67
YWSMFI            YWSMFI = IF YEAR(YWSMFI) LT IFARG(2) THEN YWSMFI*VALUE(YWSMFI/(LSMFI*YWSMPF/ LSMPF),IFARG(2)) ELSE YWSMFI
YWSMPF            YWSMPF = B0208-YWSNHE
YWSMPP_DIS        YWSMPF_DIS = YWSMPF-C03B59-C03B69A-C03B74
YWSMPS            YWSMPS = YWSMPF-YWSMFI
YWSMTC            YWSMTC = YWSMDT-YWSMDI
YWSNHE            YWSNHE = IF YEAR(YWSNHE) GT IFARG(1) THEN YWSNHE*VALUE(YWSNHE/(LSNHE*YWSNP/ LSNP),IFARG(1)) ELSE YWSNHE
YWSNP             YWSNP = B0207
YWSO              YWSO=B0205+B0208
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