MACROECONOMIC MODEL DOCUMENTATION

MARCH 2008 PUBLIC MODEL

HM TREASURY

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INTRODUCTION

The HM Treasury Macroeconomic model is principally a model of the economic activity described and recorded in the National Accounts The relationships between variables are modelled by around 40 estimated equations i.e. econometric relationships and a further 320 technical relationships and accounting identities. Some variables are determined outside of the model framework and their values are taken as given i.e. exogenous. A summary is set out in the model overview. Although it is a mathematical model it should not be used in a rigid and mechanical way, like all macroeconomic models it requires a great deal of judgement to be applied to produce a considered and plausible result.

In 2005 the Treasury completed the migration of the HM Treasury Macroeconomic model from the in-house solution software (Amodel) to the program Winsolve. Winsolve is a program for solving and simulating non-linear models, more information about Winsolve can be found at http://www.econ.surrey.ac.uk/winsolve/. The Public Model will now be released in Winsolve, and is no longer available in Amodel.

Under Winsolve model variables are identified by their names, whereas under Amodel a unique variable number identified variables. In managing the transition from Amodel to Winsolve it has been helpful to note the existing variable number, and also assign notional variable numbers to new variables added under Winsolve. Hence in this documentation variables are still presented in numerical order and not the order in which they are presented in the model code. The complete Winsolve model code is included in this documentation, and where a discrepancy arises between the model code and variable documentation e.g. the equation for a variable or its source then the model code should be taken as the definitive source.

This document gives a detailed description of the variables and equations in the Treasury Model. Variables are organised into groups as listed in the table on page four. At the beginning of each group there is a factual outline of the major variables, and any other relevant general guidance. The documentation for each variable sets out the variable name and number, and describes the data, their source, and the unit of measurement. Office for National Statistics (ONS) identifiers have been given wherever possible. All the data used in the Treasury Model are seasonally adjusted unless otherwise stated. Most variables are calendar year seasonally adjusted, except in the case of the public sector where for the most part, variables are financial year seasonally adjusted. Further information on data published by the ONS including identifiers can be found at http://www.statistics.gov.uk/statbase/expodata/TZfiles/etas.txt.

Various non-standard notational conventions are used throughout the documentation. The notation g^i refers to the lag operator for the ith period e.g. g^2 X denotes X_{t-2} and (1 - g) is the first difference operator. The operator y converts an annual interest rate into a quarterly rate. Dummy variables Qi assume the value 1 in quarter i and zero otherwise. Each estimated equation is presented with t-stats appearing in parentheses beneath the estimated coefficients, and any diagnostic statistics. Where the t-stat is absent the coefficient has been imposed. Reasons for this are usually given in the 'comment'. For each behavioural equation a summary of equation properties is normally given, including static long-run elasticities and shorter term dynamic responses to changes in some of the explanatory variables. A 'comment' is also presented when the salient features of the equation or data warrant elaboration.

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Table 1: Overview of Treasury Model

Treasury Model Group		Model Relationships				Total
		Behavioural	Technical	Exogenous	Identity	
1	Consumption	3	0	1	2	6
2	Inventories	1	2	1	4	8
3	Investment	2	5	9	7	23
4	Labour market	2	3	5	4	14
5	Exports of Goods & Services	2	1	4	4	11
6	Imports of Goods & Services	1	0	3	4	8
7	Prices, Costs & Wages	8	20	5	1	34
8	North Sea	1	5	2	0	8
9	Public Sector Expenditure	0	37	36	4	77
10	Public Sector Receipts	5	51	38	10	104
11	Balance of Payments (RoW)	3	20	13	7	43
12	Public Sector Totals	0	13	20	23	56
14	Domestic Financial Sector	9	4	2	1	16
15	Income Account	2	20	2	11	35
16	GDP Identities	1	8	1	23	33
20	PSBR, Debt & Funding	0	10	16	16	42
Total number of variables		40	199	158	121	518

Winsolve Model Code

It should be noted that in this model for complete transparency all exogenous variables have been specified via an equation, this means that under Winsolve, formally, they are endogenous. However, since they are all univariate equations then in practice their solution values are independent of the wider model. Hence any univariate equation should be taken as representing an exogenous variable, and if the equation does not supply an appropriate solution then care should be taken to supply alternative values and fix them throughout the solution period.

```
@ WinSolve code for HMT Public Macroeconomic Model 2008
{
  http://www.timberlake.co.uk/software/winsolve/winsolve.html

  Authors: Rod Whittaker, Nick Vaughan & Richard Al-Saffar

This model is provided by  HM Treasury  to the public for use based on their own
assumptions. As such, results produced by this model do not constitute the views
of the Treasury nor are they to be regarded as Treasury forecasts.

The model is provided  'as is',  without any  representation or endorsement made
and without warranty of any kind. We do not warrant that the functions contained
in the model,  or  the data supplied with it will be error free, and in no event
will we be liable for any loss or damage whatsoever arising from its use.


NB Changes to this file will not be reflected in the model file PUBMOD08.SMF.


Format for Equation comments (with column markers):
1  4                                                       61        71       80
*C -------->                                            <--------     <----  <------
*C Total interest payments of HH (&NPISH)                    ROYU   TA37,EA   NV1005
   DESCRIPTION                                        IDENTIFIER    SOURCE   UPDATE

SOURCE codes for tables:

BB  Blue Book
PB  Pink Book
EA  Economic Accounts
FS  Financial Statistics
ET  Economic Trends
MD  Monthly Digest of Statistics
AA  Annual Abstract of Statistics
QA  Quart. Natl Accounts 1st release
LM  Labour Market Stats 1st release
BP  Balance of Payments 1st release
TD  UK Trade 1st release
PF  Public Sector Finances 1st release
CS  Capital Stocks

UPDATE format: initials of official plus MMYY date, ????: no update of equation
}


{======== Model setup ==========================================================}
{
*W  Denotes a Working variable
*P  Denotes a model Parameter
*M  Denotes Multiplicative adjustments
*A  Denotes Additive adjustments
*I  Denotes an identity equation
}
*W Q1 = seas(1) ;    { 1,0 seasonal dummies }
*W Q2 = seas(2) ;
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```
*W Q3 = seas(3) ;
*W Q4 = seas(4) ;

*P OILBASE = 17.41 ;

{======== Group 01: Consumption ================================================}

*C HH (&NPISH) final consumption expenditure              NPSP   T2.5,ET   DG0304

*W RLY = 100*(FYEMP + MI - EMPSC - EESC + SBHH - TYWHH + CGOTR

                    + EECOMPC - EECOMPD - GNP4)/PCE ; {real labour income}

dlog(C) = - 0.12916*log(C(-1)/RLY(-1)) - 0.10513*dlog(C(-1))

        + 0.005062*log(100*NFWPE(-1)/(PCE(-1)*RLY(-1)))

        + 0.194530*dlog(RHHDI) + 0.089182*dlog(RHHDI(-1))

        - 0.138360*dlog(RHHDI(-2)) + 0.14614*(dlog(GPW)-dlog(PCE))

        - 0.008354*diff(UNUKP) - 0.000732*diff(RS) + 0.019706 {0.013403}

        + 0.000335*time(198501)*ifle(199002)
        - 0.000107*time(198501)*ifge(199003)

        - 0.21904*(((100*LHP(-1)*((1+RHF(-1)/100)^.25 - 1)/PCE(-1))/RHHDI(-1))
                 - ((100*LHP(-2)*((1+RHF(-2)/100)^.25 - 1)/PCE(-2))/RHHDI(-2)))

        + 0.039784*(ifeq(197902)-ifeq(197903));

*C HH (&NPISH) final consumption expenditure              RPQM   T2.5,ET   NV0206

C£ = C*PCE/100 ;

*C HH final consumption expenditure: durable goods        UTID    TA7,EA   NV????

*M CDUR = C*( 0.618320*(CDUR(-1)/C(-1)) + 0.015483*log(RHHDI(-1))

        + 0.008932*log(PD(-1)) + 0.049124*log(RHHDI/RHHDI(-2)) - 0.193

        + 0.007*(ifeq(197301)-ifeq(197302))

        + 0.004*(ifeq(197803)-ifeq(197804))

        + 0.016*(ifeq(197902)-ifeq(197903)) ) ;

*C HH final consumption expenditure: durable goods        UTIB    TA7,EA   NV1106

ratio(CDUR£) = ratio(C£) ;

*C Numbers in age cohort 20-29                            KABB   T5.3,AA   NV0906

A2029 = A2029(-1) ;

*C Property transactions                                  FTAQ   T5.5,ET   NV????

*M dlog(PD) = - 0.285*log(PD(-1)) + 0.264*log(RHHDI(-1))

            - 0.276*log(APH(-1)/PCE(-1)) - 0.0108*(RS(-1) - RMORT(-1))

            - 0.00237*(RMORT(-1) - 400*dlog(APH(-1)))

            + 0.665*log(A2029(-1)) - 7.408999 ;
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{======== Group 02: Inventories ================================================}

*C Real financing cost of stocks                          HMT     -----   NV0206

*W ZONE = 0.4*ifeq(197404) + 0.8*ifge(197501)*ifle(198101)
                                    + 1.0*ifge(198102)*ifle(198401) ;

*W ZTWO = 0.4*ifeq(197404) + 0.8*ifge(197501)*ifle(198001)
                                    + 0.7*ifge(198002)*ifle(198003)
                                    + 0.9*ifge(198004)*ifle(198101) ;

CS = PINV*TFE/TFE£*((TCPRO*(1 - ZONE)*(PINV/PINV(-4) - 1))/(1 - TCPRO)

   + (1 - PINV/PINV(-4) + (RS + 2)/100*(1 - TCPRO))

   *(1 + TCPRO*(1 - ZTWO)/(1 - TCPRO)));

*C Inventory levels                                       HMT    TA9,EA   NV0206

dlog(INV) = 0.001057 - 0.13108*log(INV(-1)/GVA(-1)) - 0.000363*(CS(-2))

          + 0.41207*dlog(INV(-1)) + 0.24573*dlog(GVA)

          - 0.000435*max((time(197001) - 40.0), 0) ;

*C Change in inventories                                 CAFU    TA2,EA   NV0206

DINV = diff(INV) ;

*C Book Value of inventories                              HMT    TA9,EA   NV0206

BV =  INV*PINV/100 ;

*C Stock appreciation                                DLRA+EQCB     TC,BB   NV0206

SA = BV(-1)*(PINV/PINV(-1)-1) ;

*C Change in inventories                                 CAEX    TA2,EA   NV0206

DINV£ = DINV*PINV/100 ;

*C Change in inventories of HH and NPISH                 RPZX   TA41,EA   NV0206

DINVHH = 0.15*DINV£ ;

*C Change in inventories of HH and NPISH                 ANMY  PSAT2,PF   NV0707

DINVCG = DINVCG(-1) ;


{======== Group 03: Investment ================================================}

*C Rate of first year allowances for plant & machinery             HMRC   NV0206

FP = FP(-1) ;

*C Rate of annual writing down allowances on plant & machinery     HMRC   NV0206

SP = SP(-1) ;

*C Rate of first year allowances for industrial buildings          HMRC   NV0206

FIB = FIB(-1) ;

*C Rate of annual writing down allowances on industrial buildings  HMRC   NV0206
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SIB = SIB(-1) ;

*C Rate of annual writing down allowances on vehicles              HMRC   NV0206

SV = SV(-1) ;

*C Cost of capital in private sector industry            HMT     -----   NV0206

{ TZ,RM, & GPM are working variables for COC}

*W TZ = 0 + 0.30*ifle(198201) ;

*W RM = (0.213*(1 - TCPRO)/ (1 - 1.25*TCPRO*((0.5*RS + 0.5*RL)/100 +.015))

      + (0.677*((1 - TPBRZ)*((0.5*RS + 0.5*RL)/100 + 0.015) + 0.1)

      /(((0.5*RS + 0.5*RL)/100 + 0.015)*(1 - TPBRZ)+ 0.1*(1 - TZ))

      + 0.11)*(1 - TPBRZ))*((0.5*RS + 0.5*RL)/100 + 0.015) ;

*W GPM = 0 + 0.20*ifle(197003)*ifgt(196704)
           + 0.25*ifle(196704)*ifgt(196604)
           + 0.20*ifle(196604) ;

COC = PIF/PGVA*(2*(0.6/23 + 0.25/60 + 0.15/10) + RM

    - 1.0*(PGVA/PGVA(-4)-1.0))*(1 - (0.15*(1 + RM)^(-0.25)*SV*TCPRO/(SV + RM)

    + 0.6*(GPM + (TCPRO*(1-GPM)*(SP + FP*RM))/((1 + RM)^1.25*(SP + RM)) + 0.03)

    + 0.25/2.1*(TCPRO*(FIB + SIB*(1 - (1 + RM)^((FIB - 1.0)/SIB))/RM)

    /((1 + RM)^1.25) + 0.03)))/(1 - TCPRO*(1 + RM)^(-1.25)) ;

*C Business investment                                    NPEL   T2.7,ET   NB0106

dlog(IBUS) = -0.11691*(log(IBUS(-1)/GVA(-1))

           + 0.52642*(log(COC(-1)*PGVA(-1)/

           ((PSAVEI(-1)*(1+(EMPSC(-1)+NIS(-1))/WFP(-1)))/1.15))

           + 0.003534*time(197001)) - 0.40424*log(BCCCU(-1)))

           + 0.5223*dlog(GVA(-3)) + 0.11171*(ifeq(198501)

           - ifeq(198502)) - 0.53 ;

*C CBI business capacity indicator                  DCOW(DKCE)   T1.1,ET   NV0206

log(CBIBC) = -2.04 - 5.5*log(GVA/(distlag(IBUS,28,1))) - 0.47291*ifeq(198701) ;

*C British Chambers of Commerce capacity indicator        BCC     -----   NV0206

BCCCU = 100 - CBIBC ;

*C General Government GFCF                    RPZG(RNCZ+RNSM)    TA8,EA   NV0206

GGI£ = CGI£ + LAI£ ;

*C General Government gross fixed capital formation      DLWF    TA8,EA   NV0206

GGI = 100*GGI£/GGIDEF ;

*C General Government investment deflator     100*(RPZG/DLWF)    TA8,EA   NV0206
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ratio(GGIDEF) = ratio(PIF) ;
*C Private sector investment in dwellings                DFEA    TA8,EA   RI1107
dlog(IH) = - 0.31998*log(IH(-1)) + 0.12876*log(APH(-1)/PCE(-1))
         - 0.002701*(RS(-1) - 400*dlog(APH(-1))) - 0.020343*diff(RS(-1)) + 2.86;
*C Public Corporation investment in dwellings            DKQH    TA8,EA   NB0106
ratio(PCIH)=ratio(IH) ;
*C PC investment in existing buildings & transfer costs  DLWH    TA8,EA   NV0308
PCLEB = PCLEB(-1) ;
*C Private sector investment in existing buildings       DLWI    TA8,EA   NV0308
IPRL  = IPRL(-1) ;
*C Investment in existing buildings and land             =HMT     -----   NV0308
ILAND = IPRL + PCLEB + GGLEB ;
*C Total gross fixed capital formation                   NPQT    TA8,EA   NV0106
IF = IBUS + GGI + PCIH + PCLEB + IH + IPRL ;
*C Total gross fixed capital formation                   NPQS    TA8,EA   NV0106
IF£ = IF*PIF/100 ;
*C HH net acquisitions of non-produced non-fin. assets   RPZU   TA41,EA   NV0106
NPAHH = NPAHH(-1) ;
*C Gross fixed capital formation by HH&NPISH             RPZW   TA41,EA   NV1005
*W PI = (PIF-0.08424*APH/1.1122)/(1-0.08424) ;
IHH£ = ( (0.5042*APH/1.1122 + (1-0.5042)*PI)*(0.9881*IH + 0.6713*IPRL)
     + PI*0.0758*IBUS ) / 100 ;
*C Gross fixed capital formation by PNFCs                ROAW   TA22,EA   NV1005
ICC£ = ( (0.5042*APH/1.1122 + (1-0.5042)*PI)*(0.0119*IH + 0.3393*IPRL)
     + PI*0.8280*IBUS ) / 100 ;
*C GFCF & net acquisition of land: PCs                   ANNQ  PSAT2,PF   NV1005
IPC£ = ( (0.5042*APH/1.1122 + (1-0.5042)*PI)*(PCLEB)
     + PI*0.0348*IBUS ) / 100 ;
*C Gross fixed capital formation by FINCOs               RPYQ   TA26,EA   NV0306
IFC£ = IF£ - IHH£ - ICC£ - LAI£ - CGI£ - IPC£ ;
*C Net acquisitions of valuables                         NPJR    TA2,EA   NV0106
VAL = VAL(-1) ;
*C Net acquisitions of valuables                         NPJQ    TA2,EA   NV0106
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VAL£ = VAL*PIF/100 ;

*C HH Net acquisitions of valuables                          RPZY   TA41,EA   NV0106

VALHH = 0.25*VAL£ ;

*C Gross physical wealth of HH&NPISH                         CGRP T10.10,BB   NV1005

GPW = 0.9933*GPW(-1)*APH/APH(-1) + .001*IHH£ ;


{======== Group 04: The Labour Market ========================================}

*C Central Government employment                             G6NQ     T4,LM   NV0507

log(ECG) = 0.276*log(CGG) + 4.803 ;

*C Local Authority employment                                G6NT     T4,LM   NV0507

log(ELA) = 0.269*log(CGG) + 5.024 ;

*C Employees in extraction of oil and gas                    CGZH     -----   NV0206

ratio(EOIL) = ratio(NSGVA) ;

*C Private sector employment (WFJ)                             HMT     -----   NV0206

dlog(EPS) = 0.72223*dlog(EPS(-1)) + 0.13958*dlog(GVA(-1))
          - 0.063794*(log(EPS(-1)/GVA(-1)) - 0.04 {imposed coefficient}
          * log(COC(-1)*PGVA(-1)/(PSAVEI(-1)*(1+(EMPSC(-1) + NIS(-1))/WFP(-1))))
          + 0.004184*time(197001)) - 0.098514 ;

*C Employed labour force (WFJ)                                 HMT     -----   NV0206

ET = EPS + EOIL + ECG + ELA ;

*C Work related govt training programmes                      LOJU     T5,LM   NV0206

WRGTP = WRGTP(-1) ;

*C Employed labour force (WFJ)                                DYDC     T5,LM   NV0206

WFJ = ET + WRGTP ;

*C Total LFS employment inc. self-employed                    MGRZ     T1,LM   NV0807

ETLFS = WFJ ;

*C Employers & self-employed (WFJ)                            DYZN     T5,LM   NV0206

ES = ES(-1) ;

*C Invalidity/incapacity benefit recipients         KJHB+KXDT  T10.5,AA   NV0207

IVB = IVB(-1) ;

*C Full-time home students in FE&HE                            HMT     -----   NV0206

ED = ED(-1) ;

*C Population of working-age (LFS)                            YBTF     T1,LM   NV0206
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POP = POP(-1) ;

*C LFS unemployment (ILO)                                    MGSC     T1,LM   NV0206

ULFS  = ULFS(-1) + 0.30086*diff(ULFS(-1))

      - 0.03045*(ULFS(-1) + IVB(-1) + ED(-1) - POP(-1) + WRGTP(-1) + 0.8*ET(-1))

      - 0.36338*diff(ET) - 0.26885*diff(ET(-1)) + 0.17262*diff(ET(-2))

      - 0.27798*diff(IVB) - 299.978485 ;

*C LFS unemployment rate                                     MGSX     T1,LM   NV0206

LFSUR = 100*ULFS/(ETLFS+ULFS) ;

*C Claimant count unemployment                               BCJD    T1A,LM   NV0206

ratio(U) = ratio(ULFS) ;

*C Claimant count unemployment rate                          BCJE    T1A,LM   NV0206

UNUKP = 100*U/(U + WFJ) ;

{======== Group 05: Exports of goods & services ================================}

*C Real MTIC related exports                    BQKQ-BQHR*1000     ??,TD   RA0107

XMTIC = XMTIC(-1) ;

*C Nominal MTIC related exports          IKBH-IKBB-BQHP*1000     ??,TD   RA0107

XMTIC£ = XMTIC£(-1);

*C Exports of non-oil goods ex. MTIC    BQAN-(BQKQ-BQHR*1000)   T1&3,TD   RA1007

log(XNOX) = log(MKTGS) + log(XNOX(-1)/MKTGS(-1))

          - 0.11171*log(XNOX(-3)/MKTGS(-3))

          - 0.49475*(dlog(XNOX(-1))-dlog(MKTGS(-1)))

          - 0.28600*(dlog(XNOX(-2))-dlog(MKTGS(-2)))

          - 0.11171*log(RPRICE) - 0.15139*(ifeq(197901)-ifeq(197902)) + 1.197 ;

*C Exports of non-oil goods inc. erratics                    BQAN   T1&3,TD   RA0107

XNO = XNOX + XMTIC ;

*C Exports of goods                                          BQKQ   T1&3,TD   NV0206

XG = XNO + XOIL ;

*C Consumer prices in 14 major economies                     ----       HMT   NV0206

M14CP = M14CP(-1) ;

*C GDP in Euro11 + US + Japan + Canada                       ----       HMT   NV1106

M14GDP = M14GDP(-1) ;

*C Exports of services                                       IKBE   T1&?,TD   NB0106

dlog(XS) = - 0.37005*dlog(XS(-1)) - 0.12309*log(XS(-1)/MKTGS(-1))
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        - 0.092142*log(PXS*RXD/M14CP) - 0.078203*(ifeq(199101))
        - 0.093831*(ifeq(200103) - ifeq(200104)) + 0.683 ;
*C Exports of goods & services                          IKBK    TA2,EA   NV0206
X  =  XS + XG ;
*C Exports of goods & services                          IKBH     T1,TD   NV0206
X£ =  (XNO*PXNO + XS*PXS + XOIL*PXOIL)/100 ;
*C Relative export prices                               CTPC  T2.15,ET   NV0206
log(RPRICE) = log((100*PXNO*RXD)/(1.7864*0.7808*WPG)) + 0.053828
            - 0.000604*time(197001) + 0.053828 ;
*C UK export markets for goods & services               ----       HMT   NV0206
MKTGS = MKTGS(-1) ;
*C World trade in non-oil goods & services              ----       HMT   NV0206
WTGS = WTGS(-1) ;

{======== Group 06: Imports of goods & services ==============================}
*C Trend specialisation in world trade & ind. production ----       HMT   NV0206
SPECX = SPECX(-1) ;
*C Real MTIC related imports           IKBL-IKBF-(BQHS*1000)     ??,TD   RA0107
MMTIC = XMTIC ;
*C Nominal MTIC related imports        IKBI-IKBC-(BQHQ*1000)     ??,TD   RA0107
MMTIC£ = XMTIC£ ;
*C Imports of non-oil goods & services ex. MTIC          HMT     ??,TD   RA0107
*W A = C + DINV + IF - NSGVA + XOIL - MOIL + 0.5*CGG ;
*W OIL = (-XOIL*PXOIL + MOIL*PMOIL + (100*NSGVA*PBRENT)/(OILBASE*RXD))/100 ;
*W DEF = 100*(C£ + DINV£ + IF£ + CGG£ - OIL)
       /(C  + DINV  + IF  + CGG  - NSGVA + XOIL - MOIL) ;
*M MNOSX = (0.27996*log(A/A(-3)) * (MNOSX/(A + 0.6*(XNOX + XS)))
         + (1 - 0.24826)*(MNOSX(-1)/(A(-1) + 0.6*(XNOX(-1) + XS(-1))))
         + 0.032262*log(SPECX) - 0.03*log(PMNOSX(-1)/DEF(-1)) + 0.04)
         * (A + 0.6*(XNOX +XS)) ;
*C Imports of non-oil goods & services          (IKBI-ENXO)/    ??,TD   RA0107
                                       {(BQKO-BPIX+IKBF)*100}
*M MNOS = MNOSX + MMTIC ;
*C Total imports of goods & services                    IKBL    TA2,EA   NV0206
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```
M = MNOS + MOIL ;
*C Total imports of goods & services                    IKBI     T1,TD   NV0206
M£ = (MNOS*PMNOS + MOIL*PMOIL)/100 ;
*C Balance of trade in goods & services                 IKBJ     T1,TD   NV1005
TB = X£ - M£ ;

{======== Group 07: Prices and Wages ========================================}
*C Union Density                                        ----       HMT   NV0706
UDEN = UDEN(-1) ;
*C Private sector average earnings index (inc. bonus)   LNKY    T46,ET   NV0706
dlog(PSAVEI) =  -0.16404*log((PSAVEI(-1)*(1 + (EMPSC+NIS)/WFP))
             /((PGVA(-1))*(GVA(-1)/EPS(-1))))
             + 0.5751*dlog(PGVA) + 0.14079*dlog(PGVA(-1))
             + 0.095662*dlog(PGVA(-2))
             + (1 - 0.5751 - 0.14079 - 0.095662)*dlog(PGVA(-3))
             - 0.056197*dlog(LFSUR(-1)) - 0.021586*log(LFSUR(-1))
             + 0.37689*(dlog(GVA)- dlog(EPS))
             + 0.15531*log(UDEN) + 0.089114*(dlog(PRXMIP)-dlog(PGVA))
             - 0.074535*(log(1 - (TYEM(-3)+EENIC(-3))/WFP(-3))
             - log(1 - (TYEM(-4)+EENIC(-4))/WFP(-4))) - 0.178066 - 0.0133 ;
*C CG average earnings index (2000=100)          NMAI/C9K9(Q)       HMT   NV0706
ratio4(ERCG) = ratio4(PSAVEI) ;
*C LA average earnings index (2000=100)          NMJF/C9KA(Q)       HMT   NV0706
ratio4(ERLA) = ratio4(PSAVEI) ;
*C Time varying coefficient for wages & salaries        ----       HMT   NV0706
ADJW = (WFP-(0.046842814*ERCG*ECG+0.033716902*ERLA*ELA))/(PSAVEI*(EPS-ES+EOIL));
*C Private Sector Unit Labour Costs (base year=100)     ----       HMT   NV0706
ULCPS = (0.1*PSAVEI*(1 + (EMPSC + NIS)/WFP)*(EPS + EOIL))/(0.012016*GVA);
*C Produce output Price Index ex. taxes                 PVNQ      -----  NV0707
dlog(PPIY) = - 0.0771*(log(PPIY(-1))
           - (1 - 0.55)*log(PMNOS(-1)) - 0.55*log(ULCPS(-1))
           - 0.0011538*(time(197604)))
           + 0.7231*dlog(PPIY(-1)) + 0.14267*dlog(PMNOS)
           + 0.011849*(log(PBRENT/RXD)-log(PBRENT(-1)/RXD(-1)))
```

```
          + (1 - 0.14267 - 0.011849 - 0.7231)*dlog(ULCPS) + 0.005009 ;
*C World Price of Goods                                    ----       HMT   NV0706
WPG = WPG(-1) ;
*C World Price of Basic Materials                          ----       HMT   NV0706
WPBM = WPBM(-1) ;
*C AVI of exports of non-oil goods           (BOKG-ELBL)/BQAN   T1&3,TD   NV0706
dlog(PXNO) = - 0.11818*(log(PXNO(-1))
           - 0.5565*log(PPIY(-1)) - (1 - 0.5565)*log(WPG(-1)/RXD(-1))
           + 0.002448*time(197001))
           + 0.84175*dlog(PPIY) + (1 - 0.84175)*(dlog(WPG)-dlog(RXD))
           + 0.042225*ifeq(199301) + 0.062791 ;
*C AVI of imports of non-oil goods & services  (IKBI-ENXO)/JTEA T1&3,TD   NV0706
*W RCOM = exp(- log(WPG) + 1.13*log(WPBM) + (1 - 1.13)*log(PBRENT)) ;
dlog(PMNOS) = - 0.24762*((log(PMNOS(-1))
            - 0.49616*log(WPG(-1)/RXD(-1)) - (1 - 0.49616)*log(PPIY(-1)))
                                          + 0.002759*(time(197001)-18))
            + 0.045881*log(RCOM)
            + 0.304*(dlog(WPG)-dlog(RXD)) + (1 - 0.304)*dlog(PPIY)
            + 0.063067*ifeq(197804) - 0.073622*ifeq(197903) + 0.13776 ;
*C AVI of imports of non-oil goods & services ex. MTIC             HMT   RA0107
log(PMNOSX) = log(PMNOS) ;
{NB PMNOSX = 100*(MNOS*PMNOS/100-MMTIC£)/(MNOSX)}
*C Inventories deflator                                    ----       HMT   NV0706
log(PINV) = 0.89295*log(PPIY) + 0.10393*log(PMNOS)
          + (1 - 0.89295 - 0.10393)*log((100*PBRENT)/(OILBASE*RXD)) ;
*C Tax component of RPCOST (base year=100)                 ----       HMT   NV0706
TAX = 100*(42*TPROD£/4123 + 58*TXFUEL/5619) / (0.0004059*GVA) ;
*C Index of retail price costs                             ----       HMT   NV0706
RPCOST = ( 61.9*ULCPS + (100*0.62*PBRENT)/(OILBASE*RXD)
       + 0.88*PMOIL + 32.1*PMNOS + 4.5*TAX )/100 ;
*C Average tax rate on RROSSI                              ----       HMT   NV0706
RPTAX = DUTRPI + 100*0.63*TVAT ;
*C Average rate of duty on RROSSI                          ----       HMT   NV0706
```

```
DUTRPI = (1 + (1/3*Q4 + (1 - 1/3)*Q1)*((PR(-1)+2*PR(-2))/
                                        (PR(-5) + 2*PR(-6)) - 1 + 0.0329)*0.7412
       + (1 - 0.7412)*Q1*((PR(-1) + 2*PR(-2))/(PR(-5) + 2*PR(-6))-1))
       *RROSSI(-1)*DUTRPI(-1)/RROSSI ;
*C RROSSI: RPIX ex. council tax, rents & depreciation    GUMF       HMT   NV0706
log(RROSSI) = log(RROSSI(-4)*(1 - 0.01*RPTAX(-4))) - log(1 - 0.01*RPTAX)
            + 0.095484*(d4log(GVA(-1)) - d4log(EPS(-1)))
            + 0.238430*d4log(RPCOST) - 0.07263*d4log(RPCOST(-4))
            + (1 - 0.23843 + 0.07263)*log((RROSSI(-1)*(1 - 0.01*RPTAX(-1)))/
            (RROSSI(-5)*(1 - 0.01*RPTAX(-5))))
            - 0.10667*log(RROSSI(-4)*(1 - 0.01*RPTAX(-4))/RPCOST(-4))
            + 0.063593*d4log(C(-2)) + 0.021759 ;
*C AVI of exports of services                        IKBB/IKBE   T1&?,TD   NV0706
dlog(PXS) = 0.67*dlog(RROSSI) + (1 - 0.67)*dlog(PMNOS)
          - 0.156*(log(PXS(-1)) - log(RROSSI(-1))) - 0.794
          - 0.064*(ifeq(200103)-ifeq(200104))
          - 0.063*(ifeq(200503)-ifeq(200504)) ;
*C Housing: Council tax & rates RPI                      DOBR  T18.2,MD   NV0706
ratio(PCT) = (Q1 + Q3 + Q4 + Q2*(ratio4(CC) - 0.007)) ;
*C LA gross rent per house per week                      ----       HMT   NV0706
*M HRRPW = HRRPW(-1)*(Q1 + Q3 + Q4 + Q2*(PGDP/PGDP(-4))*(1 + 0.05)) ;
*C Housing: Rent RPI                                     CHBF  T18.2,MD   NV0706
*M PRENT = PRENT(-1)*(0.3257*(PCE/PCE(-1))+(1 - 0.3257)*(HRRPW/HRRPW(-1))) ;
*C Consumer Prices Index                                 D7BT   T3.1,ET   NV0706
CPI = CPI(-1)*(0.955*RROSSI +  (1 - 0.955)*PRENT)/(0.955*RROSSI(-1)
    + (1 - 0.955)*PRENT(-1)) - 0.0012 ;
*C RPI excluding Mortgage Interest Payments              CHMK  T18.2,MD   NV0706
PRXMIP = 196.1*(((1 - (0.053 + 0.040 + 0.050*ifge(199501))/(1 - 0.055))
       *RROSSI)/183.1 + (0.053*PRENT/282.5 + 0.040*PCT/280.7 + 0.050*HD/282.8)
       /(1 - 0.055)) ;
*C RPIX Inflation
RPIXINF = 100*(PRXMIP/PRXMIP(-1)-1.0) ;
*C Housing: Mortgage Interest Payments RPI               DOBQ  T18.2,MD   NV0706
```

```
*M PRMIP  = (1.0150*PRMIP(-1)*RMORT*(1 - TMIRAS))/(RMORT(-1)*(1 - TMIRAS(-1))) ;
*C Retail Prices Index (RPI)                                CHAW   T3.1,ET   NV0706
PR = 201.6*((1 - 0.055)*PRXMIP/196.1 + 0.055*PRMIP/351.7);
*C Consumers' expenditure deflator       100*(ABJQ+HAYE)/NPSP    TA2,EA   NV1005
log(PCE) = log((PRXMIP - (0.039*PCT + 0.049*HD)/(1 - 0.050))
         /(1 - (0.039 + 0.049)/(1 - 0.050))) - 0.672703 {- 0.007159*Q2} ;
*C Interest Rate on Housing Finance                          ----       HMT   NV0706
RHF = RMORT*(1 - TMIRAS*(0.25*(1 - 0.001*LHP/GPW) + 0.001*0.73*LHP/GPW))
    - (1 - 0.25*TPBRZ)*(RMORT - RDEP)*(1 - 0.001*LHP/GPW) ;
*C Owner occupancy rate                                      ----       HMT   NV0706
OWC = OWC(-1) ;
*C Average House Price                                       T591      ODPM   NV0706
dlog(APH) = (log(PCE(-1)/PCE(-2)) - 0.035077*log(APH(-1)/PCE(-1))
          - 0.041557*log((100000*GPW(-1))/(APH(-1)*OWC(-1)*C(-1)))
          - 0.000758*(RHF(-1) - 400*dlog(APH(-1)))
          + 0.7957*dlog(C(-1)) + 0.60909*dlog(C(-2))
          + 0.26207*(log(APH(-4)/APH(-5)) - log(PCE(-1)/PCE(-2)))
          + 0.074806*ifeq(197203)
          - 0.09013*(ifeq(198802) - 0.5*ifge(198803)*ifle(198804)) + 0.1198) ;
*C Housing: Depreciation RPI                                 CHOO  T18.2,MD   NV0706
*M ratio(HD) = ratio(APH) ;
*C Investment Costs: I-O analysis                            ----       HMT   NV0706
ICOST  = 0.517*ULCPS + 0.406*PMNOS + 0.077*APH ;
*C Investment deflator (total GFCF)                  NPQS/NPQT     T8,EA   NV0706
dlog(PIF) = - 0.12413*(log(PIF(-1)/ICOST(-1)) + 0.002064*time(197001))
          + 0.2231*dlog(PIF(-2)) + 0.2944*dlog(PIF(-4)) + 0.26781*dlog(ICOST)
          + (1 - 0.2231 - 0.2944 - 0.26781)*dlog(ICOST(-1))
          + 0.035523 - 0.00437*Q1 ;

{======== Group 08: North Sea Oil ============================================}
*C GVA in North Sea oil & gas extraction                     UJAD     -----   NV0906
NSGVA = NSGVA(-1) ;
*C Total domestic demand for oil                UJAD+BPIX-BOXX     -----   NV0106
```

```
*W P = (GDPM£(-1) - BPA£(-1) - (NSGVA(-1)*PBRENT(-1)/(OILBASE*RXD(-1))))
     / NNSGVA(-1) ; { Price index of non-oil GVA }
log(TDOIL) = log(TDOIL(-1)) - 0.22617*log(TDOIL(-1)/NNSGVA(-1))
           - 0.050667*log(PBRENT(-1)/(RXD(-1)*P))
           + 1.062500*log(NNSGVA(-1)/NNSGVA(-2))  - 0.001399*time(197001)
           + 0.081032*(ifge(198401)*ifle(198501)) - 0.59867
           - 0.234370*(ifeq(198601) - ifeq(198602)) ;
*C Exports of oil                                        BOXX     -----   NV0106
XOIL = 0.80*NSGVA ;
*C Imports of oil                                        BPIX     -----   NV0106
MOIL = TDOIL + XOIL - NSGVA ;
*C Price index for exports of oil             (ELBL/BOXX)*100     -----   RA0307
dlog(PXOIL) = log((100*PBRENT)/(OILBASE*RXD))
            - log((100*PBRENT(-1))/(OILBASE*RXD(-1))) ;
*C Price index for imports of oil             (ENXO/BPIX)*100     -----   RA0307
dlog(PMOIL) = dlog(PXOIL) ;
*C North Sea Gross Trading Profits:PNFCs                 CAGD     T3,SR   NV1005
*M NSGTP = (NSGVA*PBRENT)/(OILBASE*RXD) ;
*C Brent crude oil price ($ per barrel)                  ----       IMF   NV0706
ratio(PBRENT) = ratio(WPG) ;

{======== Group 09: Public Expenditure ========================================}
*C CG compensation of employees                          QWPS     -----   NV1205
CGWS = CGWS(-1) ;
*C LA compensation of employees                          QWRY     -----   NV1205
LAWS = LAWS(-1) ;
*C CG procurement expenditure                            QWPT     -----   NV1205
CGP = CGP(-1) ;
*C LA procurement expenditure                        QWRZ-NMKK     -----   NV1205
LAPR = LAPR(-1) ;
*C CG gross fixed capital formation                      NMES   TA31,EA   NV0506
CGI£ = CGI£(-1) ;
*C LA gross fixed capital formation                      NMOA   TA36,EA   NV0506
LAI£ = LAI£(-1) ;
```

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*C CG non-trading capital consumption                    NSRN  PSAT2,PF   PM0907
*W DEPDEL = (TFE£/TFE)/(TFE£(-1)/TFE(-1)) ; {TFE deflator}
*P CGDEP = 0.0072118 ;
RCGIM = CGDEP*(CGSTOCK(-1)*DEPDEL + CGI£) - 100 ;
*C CG net capital stock                                  CIXK T1.1.1,CS   PM0107
CGSTOCK = (1 - CGDEP)*(CGSTOCK(-1)*DEPDEL + CGI£) ;
*P LADEP = 0.0072128 ;
*C LA non-trading capital consumption                    NSRO  PSAT2,PF   PM0907
RLAIM = LADEP*(LASTOCK(-1)*DEPDEL + LAI£) - 100 ;
*C LA net capital stock                                  CIXL T1.1.1,CS   PM0107
LASTOCK = (1 - LADEP)*(LASTOCK(-1)*DEPDEL + LAI£) ;
*C General Govt Gross Operating Surplus                  NMXV  PSAT2,PF   NV1205
OSGG = RCGIM + RLAIM ;
*C General Govt final consumption                        NMRP    TA2,EA   NV1205
CGG£ =    (CGWS + LAWS) + (CGP + LAPR) + (RCGIM + RLAIM) ;
*C General Govt final consumption deflator      100*NMRP/NMRY    TA2,EA   RI1107
log(GGFCD) = -0.12291 + (1 - 0.38288)*log(100*TFE£/TFE)
           + 0.38288*log(ERLA*(1 + EMPSC/WFP))
           + 0.001195*(time(197001) - 68) + 0.01073*Q1 ;
*C General Govt final consumption CVM                    NMRY    TA2,EA   NV1205
CGG = CGG£/(GGFCD/100) ;
*C CG subsidies on products                              NMCB   TA27,EA   NV0506
CGSUBP  = CGSUBP(-1)*PGDP/PGDP(-1) ;
*C Payable company tax credits                           MDXH     -----   NV0506
PCOTC  = PCOTC(-1) ;
*C Reduced liability company tax credits           JPPT-MDXH     -----   NV0506
RLCOTC = RLCOTC(-1) ;
*C CG subsidies on production                            NMCC   TA27,EA   NV0506
CGSUBPR = PCOTC + RLCOTC + (CGSUBPR(-1) - PCOTC(-1) - RLCOTC(-1))*ratio(PGDP) ;
*C CG total subsidies: products & production             NMCD  PSAT2,PF   NV0506
CGTSUB  = CGSUBP + CGSUBPR ;
*C LA subsidies on production                            LIUC   TA32,EA   NV0506
LASUBPR = LASUBPR(-4)*ratio4(PGDP) ;
```

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*C LA subsidies on products                          ADAK-LIUC T5.3.3,BB   NV0506
LASUBP = LASUBP(-1)*ratio(PGDP) ;
*C LA total subsidies: products & production             ADAK  PSAT2,PF   NV0506
LATSUB = LASUBP + LASUBPR ;
*C LA net social benefits to HH                          GZSK  PSAT2,PF   NV0506
LASBHH = (0.25*ratio4(PR) + (1 - 0.25)*ratio4(PRENT))*(1 + 0.047)*LASBHH(-4) ;
*C Aggregate External Grant from CG to LA                ----       HMT   NV0506
AEG = 0.8*(LATSUB + 0.068*LASBHH - 0.75*LAVAT + 0.987*(LAWS + LAPR) +
    0.525*(DILAPR + DILACG + DILAPC) - 1.3*DIRLA) ;
*C Total grants from CG to LA                            QYJR  PSAT2,PF   NV0506
CGCGLA = AEG + (0.25*PR/PR(-4) + (1 - 0.25)*PRENT/PRENT(-4))
       *(1 + 0.024)*(CGCGLA(-4) - AEG(-4)) ;
*C Uprating factor for benefits without statutory requirement       HMT   NV0208
UPLIFT = UPLIFT(-1)*(Q1 + Q3 + Q4 + Q2*((0.15*PR(-2)+(1 - 0.15)*RROSSI(-2))
                                + 2*((0.15*PR(-3)+(1 - 0.15)*RROSSI(-3)))) /
                                    ((0.15*PR(-6)+(1 - 0.15)*RROSSI(-6))
                                 + 2*(0.15*PR(-7)+(1 - 0.15)*RROSSI(-7)))) ;
*C Uprating factor for benefits with statutory requirement          HMT   NV0208
UPRAT =   UPRAT(-1)*(Q1 + Q3 + Q4 + Q2*(PR(-2) + 2*PR(-3))
                                     /(PR(-6) + 2*PR(-7))) ;
*C Cyclical Social Security spending                     ABBV       HMT   NV0506
CSS =  (.15*.4511 + (1.0 -.15)*.4537)*(1.363999*U + 1000*exp(-.869 +
    .106*(min((time(197001)-33), 73)/4.0 + .375)))*(.25*(UPLIFT + UPLIFT(-1)
    + UPLIFT(-2) + UPLIFT(-3)) + .375*(Q2*diff(UPLIFT) + Q3*diff(UPLIFT(-1))
    + Q4*diff(UPLIFT(-2))+ Q1*diff(UPLIFT(-3)))) ;
*C Number of pensioners inc. widows                      BDAE   T4.1,MD   NV0807
NOPENS = NOPENS(-1) ;
*C Number of children receiving child benefits           BDAH   T4.1,MD   NV0506
KID = KID(-1) ;
*C CG net social benefits to households                  GZSJ  PSAT2,PF   NV0506
CGSB = CSS + (WFTCPE + WTCCTC) + MILAPM + MILAPME + VTRCS + 7.25*.013*UPRAT*KID
     + ((0.4537*0.116 + 0.5668)*(1 + 0.7)*NOPENS + 702.5)
     * (0.25*(UPRAT + UPRAT(-1) + UPRAT(-2) + UPRAT(-3))
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     + 0.375*(Q2*diff(UPRAT) + Q3*diff(UPRAT(-1))

     + Q4*diff(UPRAT(-2)) + Q1*diff(UPRAT(-3)))) ;

*C Debt Interest Payments on Natl Savings                XACX     -----   NV0506

*W RNSq = (1 + RNS/100)^(1/4) - 1 ;
*W RNSn = (1 + RNS/100/(1 - TPBRZ))^(1/4) - 1 ;

DIPNSC = diff(NATSAV(-1))*(0.4*RNSq + 0.5*RNSn + 0.1*diff(PR)/PR(-1))

       + (RNSn(-1) - RNSn(-2))*NATSAV(-2)/2.5 + 0.16*NATSAV(-2)*(diff(PR)/PR(-1)

       - diff(PR(-1))/PR(-2)) + DIPNSC(-1) ;

*C Interest payments on gilts redeemed & other flows     ----       HMT   NV0506

REDOTH = REDOTH(-1) ;

*C Debt interest payments on conventional gilts          CUEM     -----   NV1105

*W GILTRATE = ((1 - 0.4075)*RL + 0.4075*RS) ; {see CGGILTS}

DIPLDC = DIPLDC(-1) - REDOTH(-1) + ((1 + GILTRATE(-1)/100)^.25 - 1)

         *(REDGILT(-1) - dILGILT(-1) + dGILT(-1)) - 20*ifeq(200802) ;

*C Debt interest payments on index-linked gilts          CMSU     -----   NV1105

IILG = IILG(-2)*PR(-3)/PR(-5) + 2*((1 + RILG(-1)/100)^0.25 - 1)*dILGILT(-1) ;

*C Accrued uplift on index-linked gilts                  NMRB     -----   NV0506

ILGUP = REVIG(-1)*(PR(-2)/PR(-3) - 1) ;

*C Index-linked gilts cash uplift                    NMRB-NMQZ     -----   NV0506

ILGCSH = ILGCSH(-1) ;

*C Accruals adjustment on index-linked gilts            -NMQZ     -----   NV0506

ILGAC = ILGCSH - ILGUP ;

*C Stock of floating-rate gilts                          ----       HMT   NV0506

FLOATER = 0 ;

*C CG interest/dividends paid: other                     ----       HMT   NV1007

diff(DITHER) = 0 ;

*C CG interest/dividends paid to private sector & RoW    NMFX  PSAT2,PF   NV1007

DICGOP = DIPNSC + DIPLDC + IILG + ILGUP

       + ((1 + (RS - 0.14)/100)^.25 - 1)*CGOD

       + ((1 + (RS - 0.43)/100)^.25 - 1)*TBILLS

       + ((1 + (RS + 0.26)/100)^.25 - 1)*FLOATER(-1)

       + ((1 + (RS - 2.47)/100)^.25 - 1)*TXCERT(-1)

       + ((1 + (RS + 0.43)/100)^.25 - 1)*(FLEASGG - 70)

       + DITHER ;
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*C LA interest/dividends paid to private sector & RoW    NUGW  PSAT2,PF   RA0907
*W LARATE = (1-0.8)*RL  + 0.8*RS - 0.3 ;
DILAPR = ((1 + LARATE/100)^.25 - 1)*SLAB(-1) ;
*C LA debt interest payments to CG                       GVHA     -----   RA0907
*W PWLBRATE = 0.09*RL  + 0.93*RS + 0.5 ;
DILACG = 0.985*DILACG(-1) + ((1 + 0.015)*SLCGLA(-1) - SLCGLA(-2))*
         ((1 + PWLBRATE/100)^.25 - 1) ;
*C CG debt interest payments to LAs                      NUHC     -----   NV0506
DICGLA = DICGLA(-1) ;
*C PC debt interest payments to CG                GVHC-ZYHY     -----   RA0907
DIPCCG = DIPCCG(-1) + 0.2*SPCBCG(-2)*(((1 + RS/100)^.25-1)
       - ((1 + RS(-1)/100)^.25-1)) + ((1 + RL/100)^.25-1)*diff(SPCBCG(-1)) ;
*C CG debt interest payments to PCs            GVHH-CPBA-GVHG     -----   NV0506
DICGPC = DICGPC(-1) ;
*C LA debt interest payments to PCs                      CPBA     -----   NV0506
DILAPC = DILAPC(-1) ;
*C PC debt interest payments to LAs                GVHD-ZYHZ     -----   NV0506
DIPCLA = DIPCLA(-1) ;
*C CG NET interest & dividends from Public Sector        ANNY  PSAT2,PF   NV0507
CGINTRA = DILACG + DIPCCG + DVPCCG - DICGLA - DICGPC ;
*C LA NET interest & dividends from Public Sector        ANPZ  PSAT2,PF   NV0507
LAINTRA = DIPCLA + DICGLA + DVPCLA - DILACG - DILAPC ;
*C PC NET interest & dividends from Public Sector        ANRW  PSAT2,PF   NV0507
PCINTRA = DILAPC + DICGPC - DIPCCG - DVPCCG - DIPCLA - DVPCLA ;
*C CG actual social contributions                        GCMP 6.1.4S,BB   NV0506
CGASC = 0.089546*CGWS ;
*C CG imputed social contributions            GCSG+GCSH+RUDY 5.2.4S,BB   NV0506
CGISC = 0.073208*CGWS ;
*C CG employee social contributions           GITB+GVFJ-GTKW 5.2.4S,BB   NV0307
EESCCG = 0.074260*CGWS ;
*C LA imputed social contributions                       GCMN 5.3.4S,BB   NV0506
LASC = 0.035970*LAWS ;
*C LA employee social contributions                      NMWM 5.3.4S,BB   NV0506
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```
EESCLA = 0.011897*LAWS ;
*C WFTC scoring as Negative Tax                    -MDYL+LIBJ     -----   NV0506
WFTCNT = WFTCNT(-1) ;
*C WFTC scoring as Public Expenditure               MDYN+MDYM     -----   NV0506
WFTCPE = WFTCPE(-1)*((0.15*PR    + (1 - 0.15)*RROSSI)/
                     (0.15*PR(-1)+ (1 - 0.15)*RROSSI(-1))) ;
*C CG net current grants abroad                          GZSI  PSAT2,PF   NV0506
CGNCGA = ECNET + TROD ;
*C LA net current grants abroad                          C626  PSAT2,PF   NV0307
LANCGA = LANCGA(-1) ;
*C CG other current grants                               NMFC  PSAT2,PF   NV0506
CGOTR = GNP4 + (CGOTR(-1) - GNP4(-1))*ratio(GDPM£) ;
*C LA other current grants (to HH)                       EBFE  PSAT2,PF   NV0506
LAOTRHH = LAOTRHH(-1) ;
*C Net privatisation proceeds                           -ABIF     -----   NV0506
NPRIVP  = NPRIVP(-1) ;
*C CG miscellaneous payments                         ANRS-ABIF  PSAT2,PF   NV0506
CGMISP  = CGMISP(-1) ;
*C LA miscellaneous expenditure                          LSIB  PSAT2,PF   NV0506
LAMISE = LAMISE(-1) ;
*C LA payments of NNDR                                   CQOQ     -----   NV0506
LANNDR  = LANNDR(-1) ;
*C Lottery financed expenditure                          CJSW     -----   NV0506
GNLDF = GNLDF(-1) ;

{======== Group 10: Public Sector Receipts ===================================}
*C Lower rate of income tax                              ----       HMT   NV0606
TPLR = TPLR(-1) ;
*C Basic rate of income tax                              ----       HMT   NV0606
TPBRZ = TPBRZ(-1) ;
*C Higher rate of income tax                             ----       HMT   NV0606
TPHR = TPHR(-1) ;
*C MIRAS tax rate                                        ----       HMT   NV0606
```

```
TMIRAS = TPBRZ*ifle(199401) + TPLR*ifge(199402)*ifle(199501) + 0 ;

*C Married Couples Allowance (quarterly rate)            ----       HMT   NV0606

TPMCA = (1 - Q2)*TPMCA(-1) + (1 + 1.0*((0.5*PR(-2) + PR(-3))/

                                    (0.5*PR(-6) + PR(-7))-1))*TPMCA(-4)*Q2 ;

*C Single Persons Allowance (quarterly rate)             ----       HMT   NV0606

TPSNA = (1 - Q2)*TPSNA(-1) + (1 + 1.0*((0.5*PR(-2) + PR(-3))/

                                    (0.5*PR(-6) + PR(-7))-1))*TPSNA(-4)*Q2 ;

*C Age Allowance (quarterly rate)                        ----       HMT   NV0606

TPAG = (1 - Q2)*TPAG(-1) + (1 + 1.0*((0.5*PR(-2) + PR(-3))/

                                  (0.5*PR(-6) + PR(-7))-1))*TPAG(-4)*Q2 ;

*C All tax allowances (quarterly rate)                   ----       HMT   NV0606

*W TPAL  = (0.382*TPMCA + 1.000*TPSNA +     0*TPAG)*ifge(199402)

         + (0.382*TPMCA + 0.976*TPSNA + 0.039*TPAG)*ifle(199401) ;

*W TPAL4 = TPAL(-4) ;

*C Lower Rate Band for income tax (quarterly rate)       ----       HMT   NV0606

LRB = ifle(200801)*((1 - Q2)*LRB(-1)

    + (1 + 1.0*((0.5*PR(-2) + PR(-3))/(0.5*PR(-6) + PR(-7))-1))*LRB(-4)*Q2) ;

*C Basic Rate Band for income tax (quarterly rate)       ----       HMT   NV0606

BRB = (1 - Q2)*BRB(-1) + (1 + 1.0*((0.5*PR(-2) + PR(-3))/

                                 (0.5*PR(-6) + PR(-7))-1))*BRB(-4)*Q2  ;

*C Uprating factor                                       ----       HMT   NV0606

MRATE = 0.25*(UPRAT + UPRAT(-1) + UPRAT(-2) + UPRAT(-3))

      + 0.375*(Q2*diff(UPRAT) + Q3*diff(UPRAT(-1)) + Q4*diff(UPRAT(-2))

      + Q1*diff(UPRAT(-3))) ;

*C Taxes on income from employment                       DBBO     -----   NV0208

*W AW = 1000*WFP/(ET - ES) ;  { Average employee wage }

*W TYRT = (0.46*0.5668*MRATE*NOPENS - 1.989*TPAL + 0.1*702.5*MRATE - 0.0375*TPAL

        + (0.332*(0.8*702.5 + ((1 - 0.3)*U + .116*NOPENS)*.4537)

        + 0.3*0.4511*U)*MRATE - (0.1896 + 0.7219)*TPAL)*TPBRZ ;

*M TYEM = WFP*(TPLR*(exp(-3*TPAL/AW)*(1 + 2*TPAL/AW + 1.5*(TPAL/AW)^2))

        + (TPBRZ - TPLR)*(exp(-3*(TPAL + LRB)/AW)*(1 + 2*(TPAL + LRB)/AW +
                                                   1.5*((TPAL + LRB)/AW)^2))

        + (TPHR - TPBRZ)*(exp(-3*(LRB + BRB + TPAL)/AW)*
              (1 + 2*(LRB + BRB + TPAL)/AW + 1.5*(((LRB + BRB +TPAL)/AW))^2)))
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        + TYRT ;

*C Income tax accruals adjustment         CYNX+RUTC+DKHE+DBKE     -----   NV0606

INCTAC = 0.5*DIFF(TYEM) ;

*C Taxes on self-employment incomes                       ZAFG     -----   NV0208

*W SW = 1000*(MI(-4)+WYQC(-4))/ES(-4) ;

TSEOP = (MI(-4)+WYQC(-4))*

        (TPLR(-4)*
         (exp(-3*TPAL4/SW)*(1 + 2*TPAL4/SW + 1.5*(TPAL4/SW)^2))

      + (TPBRZ(-4) - TPLR(-4))*

         (exp(-3*(TPAL4 + LRB(-4))/SW)*(1 + 2*(TPAL4 + LRB(-4))/SW +
            1.5*((TPAL4 + LRB(-4))/SW)^2))

      + (TPHR(-4) - TPBRZ(-4))*
         (exp(-3*(LRB(-4) + BRB(-4) + TPAL4)/SW)*(
           1 + 2*(LRB(-4) + BRB(-4) + TPAL4)/SW +
            1.5*((LRB(-4) + BRB(-4) + TPAL4)/SW)^2)))

      + 0.13*DIRHH ;

*C Class 1 Employee NIC rate (weighted average)           ----  T10.4,AA   NV0607

EENIR = EENIR(-1) ;

*C Class 1 Employer NIC rate (weighted average)           ----  T10.4,AA   NV0607

EMPNIR = EMPNIR(-1) ;

*C Employee NICs higher rate                              ----  T10.4,AA   NV0607

HEENIR = HEENIR(-1) ;

*C Class 4 self-employed NIC rate                         ----  T10.4,AA   NV0707

SENIR = SENIR(-1) ;

*C Lower earnings limit for NICs                          ----  T10.4,AA   NV0606

LL = LL(-1)*(Q1 + Q3 + Q4

    + Q2*((PR(-2) + 2*PR(-3))/(PR(-6) + 2*PR(-7)))) ;

*C Upper earnings limit for NICs                          ----  T10.4,AA   NV0606

UL = (-0.89*ifge(200102) -0.47*ifge(200002)*ifle(200101) + 7.5)*LL ;

*C Employees' (& self-employed) payments of NICs    AIIH-CEAN   PSF3,PF   NV0208

*W ULER = 0.001*UL*(ET - ES)/WFP ;

*W LLER = 0.001*LL*(ET - ES)/WFP ;

*W LLPT = 0.001*(LL*ifle(200001) + 76*52/4*ifge(200002)
                                        *ifle(200101) + TPSNA*ifge(200102))
               *(ET - ES)/WFP ;

*W ULES = 0.001*UL*ES/(MI+WYQC) ;

*W LLES = 0.001*LL*ES/(MI+WYQC) ;
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*W EEOUT = 0 + 1.60*ifge(199702) {Employees' NICs contracted out rebate}
             + 1.80*ifge(199302)*ifle(199701)
             + 2.00*ifge(198802)*ifle(199301)
             + 2.15*ifge(198302)*ifle(198801)
             + 2.50*ifge(197802)*ifle(198301) ;

EENIC  = WFP*HEENIR/100*(exp(-3*ULER)*(1 + 2*ULER + 1.5*ULER^2))*ifge(200302)

       + WFP*EENIR/100*(1 - (1 - 0.62)*(EEOUT/EENIR))*

                        (exp(-3*LLER)*(1 + 2*LLER + 1.5*LLER^2)
                      - exp(-3*ULER)*(1 + 2*ULER + 1.5*ULER^2))

       + (MI+WYQC)*SENIR/100*(exp(-3*LLES)*(1 + 2*LLES + 1.5*LLES^2)
                            - exp(-3*ULES)*(1 + 2*ULES + 1.5*ULES^2)) ;

*C Employers' payments of NICs                          CEAN T6.1.4S,BB   NV0208

*W EPOUT = 0 + 3.5*ifge(200202) {Employers' NICs contracted out rebate}
             + 3.0*ifge(199302)*ifle(200201)
             + 3.8*ifge(198802)*ifle(199301)
             + 4.1*ifge(198302)*ifle(198801)
             + 4.5*ifge(197802)*ifle(198301) ;

EMPNIC = WFP*EMPNIR/100*(exp(-3*LLPT)*(1 + 2*LLPT + 1.5*LLPT^2)

       - (1 - 0.62)*((EPOUT/EMPNIR)*
                        (exp(-3*LLER)*(1 + 2*LLER + 1.5*LLER^2)
                      - exp(-3*ULER)*(1 + 2*ULER + 1.5*ULER^2))))

                      - (exp(-3*LLER)*(1 + 2*LLER + 1.5*LLER^2)*ifle(198503)) ;

*C Employers' Natl Insurance Surcharge            GTAY(ACEF)  T11.1,BB   NV0307

NIS = 0 ;

*C National Insurance accruals adjustment     ACJY(AIIH-ABLP)     -----   NV0207

NICAC = 0.36*(diff(EENIC) + diff(EMPNIC)) + 973*(Q4 - Q2) ;

*C Higher rate of VAT                                   ----       HMT   NV0207

TVAT = TVAT(-1) ;

*C VAT-able durables consumption                        ----       HMT   NV0207

VATFAC1 = VATFAC1(-1) ;

*C VAT-able non-durables consumption                    ----       HMT   NV0207

VATFAC2 = VATFAC2(-1) ;

*C Net VAT receipts                                     EYOO  T2.1D,FS   NV0207

*M VREC = (VATFAC1(-1)*CDUR£(-1) + VATFAC2(-1)*(C£(-1) - CDUR£(-1))

        + 0.686*CGP(-1) + 0.968*CGI£(-1) + 0.423*IHH£(-1)

        + 0.78*(0.1015*GDPM£(-1))) * TVAT(-1)/(1 + TVAT(-1)) ;

*C Hydrocarbon oils duty receipts                       ACDD  T2.1D,FS   NV0606

ratio(TXFUEL) = ratio(GDPM£) ;

*C Tobacco duty                                         ACDE  T2.1D,FS   NV0606
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log(TXTOB) = -0.92735 - 0.0035*(time(197001)-9.0) + 0.443868*log(PCE)
           + 0.6299*log(C) - 0.17316*log(PCE(-1)) + 0.17316*log(PCE(-1)/114.1)
           + (1 - 0.443868)*log(PCE/115.3) ;
*C Alcohol duties: beer, wines & spirits          ACDF/G/H/I  T2.1D,FS   NV0606
log(TXALC) = log(PCE) + 0.64*log(C) - 0.00522*time(197702) - 4.5103
           + 0.0632*Q2 + 0.1421*Q3 + 0.4228*Q4 ;
*C Climate Change Levy                                LSNS  T2.1D,FS   NV0707
CCL = CCL(-1) ;
*C Aggregates Levy                                    MDUP  T2.1D,FS   NV0707
AL = AL(-1) ;
*C Climate Change & Agg. Levies accruals adj.  LSNU+MDUR+CJRY     -----   NV0606
CCLACA = CCLACA(-1) ;
*C Misc. C&E taxes                          see Model Doc.  T2.1D,FS   NV0707
{ACAC-EYOO-ACDD-ACDE-ACDF/G/H/I-ADET-LSNS-MDUP}
ratio(TXCUS) = ratio(C£) ;
*C Customs & Excise taxes                             ACAC  T2.1D,FS   NV0707
CETAX = VREC + TXFUEL + TXTOB + TXALC + EUOT + CCL + AL + TXCUS ;
*C Excise duties accruals adjustments                 RUSD     -----   NV0606
EXDUTAC = EXDUTAC(-4)*(VREC + TXALC + TXFUEL + OPT + TXMIS)
        /(VREC(-4) + TXALC(-4) + TXFUEL(-4) + OPT(-4) + TXMIS(-4));
*C Rail Franchise Payments                             LITT     -----   NV0208
ratio(RFP) = ratio(C£) ;
*C Misc. taxes on products                  see Model Doc.  T11.1,BB   NV0707
{CIQY+GTAZ+CUAG+CUDF+LIYH+EBDB+LITN+DFT3+EG9G+GCSP}
ratio(TXMIS) = ratio(C£) ;
*C Renewable Obligation Certificates (tax on products)   EP89  T11.1,BB   NV0307
*A ratio(ROCs) = ratio(GDPM£) ;
*C Vehicle Excise Duty                                 GTAX     -----   NV0307
VED = VEDHH + VEDCO ;
*C VED paid by other sectors; production tax        GTAX-CDDZ     -----   NV0307
VEDCO = VEDCO(-1) ;
*C VED paid by HH; currrent taxes                      CDDZ  T11.1,BB   NV0307
VEDHH = VEDHH(-1) ;
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*C BBC license fees                                        DH7A      -----   NV0706
BBC = BBC(-1) ;
*C Passport fees                                           E8A6      -----   NV0706
PASSPORT = PASSPORT(-1) ;
*C Other household taxes                          NSFA+NSNP+CQTC     -----   NV0706
ratio(OHT) = ratio(GDPM£) ;
*C Other current taxes: rec'd by CG                    NMCV-CQOQ     -----   NV0706
OCT = VEDHH + BBC + PASSPORT + OHT ;
*C Betting tax scored as taxes on income & wealth          MIYF  see doc.   NV0606
BETPRF = BETPRF(-1) ;
*C Betting levies scored as taxes on income & wealth       DW9E  see doc.   NV0107
BETLEVY = BETLEVY(-1) ;
*C OFGEM renewable energy tax                              EO2E      -----   NV1206
*A ratio(OFGEM) = ratio(GDPM£) ;
*C Other taxes on production                 see Model Doc.  T11.1,BB   NV0707
{NMBX-CUKY-GTAY-(GTAX-CDDZ)}
ratio(OPT) = ratio(GDPM£) ;
*C LA receipts of production taxes                         NMYH   TA32,EA   NV0606
*A ratio(LAPT) = ratio(GDPM£) ;
*C Profits of note issue                                   EYWM      -----   RA0907
*W NOTERATE = (1-1)*RL(-1)+1*RS(-1) ;
POISS = (M0 - COIN)*((1 + (NOTERATE - 0.22)/100)^.25 - 1) ;
*C Dividends from Private Sector to CG                     ZYIA      -----   NV1007
DVPSCG = POISS + 25 ;
*C Total CG dividend receipts                        ZYIA+ZYHY      -----   NV0606
DIVRCG = DVPSCG + DVPCCG ;
*C CG interest receipts: earnings on reserves              D69U      -----   SK0107
CGC = ((1+(ROSHT - 0.3)/100)^0.25 - 1)*(SRES + SRES(-1))/2 + 25 ;
*C Total CG debt interest receipts   GVHA+GVHC+GVHE-ZYHY-ZYIA      -----   PM0907
DIRCG = DILACG + DIPCCG + CGC + OCGASS*((1 + RS/100)^.25 - 1) + 185 ;
*C Total LA debt interest receipts        NUHC+GVHD-GVHF-ZYHZ      -----   RA0907
DIRLA = DIPCLA + DICGLA + SLAM(-1)*((1 + RS/100)^.25 - 1) +
      (0.64*(((1 + RMORT/100)^.25 - 1) - ((1 + RS/100)^.25 - 1)) +
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      (1 - 0.64)*((1 + RL/100)^.25 - 1))*SLAPO(-1) ;
*C CG interest & dividends from Private sector & RoW     GVHE  PSAT2,PF   NV0507
CGNDIV  = DIRCG + DVPSCG - DILACG - DIPCCG ;
*C LA interest & dividends from Private sector & RoW     GVHF  PSAT2,PF   NV1106
LANDIV  = DIRLA - DICGLA - DIPCLA ;
*C PC interest & dividends from Private sector & RoW     GVHG  PSAT2,PF   NV1106
PCNDIV  = DIPRPC ;
*C Public Sector interest & dividend receipts            ANBQ  PSAT2,PF   NV1106
PSINTR = CGNDIV + LANDIV + PCNDIV ;
*C Household transfers to CG                             NMEZ   TA28,EA   NV0606
HHTCG = HHTCG(-1) ;
*C CG rent receipts                          NMCK-ACEC-BKTK   TA27,EA   NV0606
RNCG = 1.65*(PIPHH-DIPHH) ;
*C CG rent & other current transfers                     ANBU  PSAT2,PF   NV0506
CGRENT = RNCG + HHTCG + NSROY + MOBREV ;
*C LA rent & other current transfers                     ANBX  PSAT2,PF   NV0506
LARENT = LARENT(-1) ;
*C PC rent & other current transfers                     ANCW  PSAT2,PF   NV0506
PCRENT = PCRENT(-1) ;
*C VAT refunds to LAs                                    CUCZ     -----   NV0606
*W VATHOME = 0.22*ifle(198401) + 0.33*ifge(198402) ;
LAVAT = 36.0*ifle(198401) + (0.98*LAPR + 2*LAI£*VATHOME)*(TVAT/(1 + TVAT))  ;
*C VAT refunds (except to LAs)                           CUNW     -----   NV0606
XLAVAT = 0.3012*CGP*(TVAT/(1 + TVAT)) ;
*C Community charge/council tax accruals                 NMIS   TA33,EA   NV0606
CC = (1 - 0.19)*(-AEG + LATSUB + 0.987*(LAWS + LAPR) + 0.068*LASBHH
   - 0.75*LAVAT + 0.525*(DILAPR + DILACG + DILAPC) - 1.3*DIRLA) ;
*C National Non-Domestic Rates Accrued receipts          CUKY     -----   NV0606
NNDRA = NNDRA(-1)*((Q1 + Q3 + Q4))
      + NNDRA(-4)*(Q2*(((PR(-2) + PR(-3))/(PR(-6) + PR(-7)))));
*C MIRAS, LAPRAS & PMI scored as receipts                GCJG     -----   NV0606
MILAPM  = MILAPM(-1)*ifge(200002)
        + (0.54*TMIRAS*LHP*((1 + RMORT/100)^.25 - 1))*ifge(199102) ;
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*C MIRAS, LAPRAS & PMI scored as expenditure   DCHG+DCHF+GCJJ     -----   NV0606
MILAPME = 0.33*MILAPM*ifge(200002) + 0.061*MILAPM*ifle(200001) ;
*C Vocational training relief scored as receipts        -MDUF     -----   NV0606
VTR = 0 ;
*C VTR & other reliefs scored as expenditure   IQKI+BKSG+BKSH     -----   NV0606
VTRCS = VTRCS(-1) ;
*C Children's tax credit                                -MDWZ     -----   NV0606
CTC = CTC(-1) ;
*C Total income tax credits                              ----       HMT   NV0606
TAXCRED = MILAPM + VTR + CTC + WFTCNT ;
*C Pension fund tax credits                             -CFGS     -----   NV0306
PFTC = 0 ;
*C Non-HH NPISH tax credits                  CFGW-MDYW-MDYU     -----   NV0306
NHNPTC = NHNPTC(-1) ;
*C NPISH tax credits                                     CFGW     -----   NV0306
NPISHTC = NPISHTC(-1) ;
*C Working & children's tax credits                      MDYN     -----   NV0306
WTCCTC = WTCCTC(-1) ;
*C Income tax gross of tax credits                       LIPG     -----   NV0306
INCTAXG  = TYEM + TSEOP + TCINV - INCTAC + VTR + CTC - PFTC - NPISHTC - NHNPTC ;
*C Inheritance tax                                NMGI(ACCH)   TA31,EA   NV0606
INHT = INHT(-1) ;
*C Capital Gains tax (paid by HH)                        QYJX      D512   NV0607
CGT = CGT(-1) ;
*C Stamp duty receipts                                   ACCI  T2.1C,FS   NV0606
ratio(TSD) = 0.76*ratio(EQPR) + 0.24*(PD*APH)/(PD(-1)*APH(-1)) ;
*C Petroleum Revenue Tax                                 ACCJ  T2.1C,FS   NV0606
PRT = -122 + 0.077560*NSGTP(-1) + 143*Q1 + 174*Q3
    + 409*ifeq(199701) + 318*ifeq(200503) ;
*C North Sea Royalties                                   ACEC     -----   NV0606
NSROY = (0.013684*7.5*(NSGVA(-1)*PBRENT(-1))/(OILBASE*RXD(-1)) - 216.536
      + ifge(198302)*(228*Q1 + 235*Q3) + 184*ifle(198301) - 420*ifeq(198301)
      - 325*ifge(199903))*ifle(200204) ;
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*C Supplementary Charge on North Sea profits                ----       HMT   NV0606

SC = SC(-1) ;

*C North Sea Corporation Tax Payments                       DBJY     -----   NV0606

NSCTP = 0.29948*NSGTP(-7)*(TCPRO(-7)+SC(-7)) - (TCPRO(-2)+SC(-2))*

      (0.55334*TCACT(-2) + 1.8571*NSROY(-2) + 0.17629*PRT(-2))

      + 409.4802 - 303.7928*Q2 + 803*ifeq(198601) + 626*ifeq(199704)

      + 606*ifeq(199804) + 738*ifeq(200104) ;

*C Total allowances on PNFCs investment in buildings        ----       HMT   NV0606

diff(SIBICC) = ICC£*SIB ;

*C Capital Allowances due (all companies)                   ----   T9.1,BB   NV0606

CAPAL = (0.1320* {NB weight of vehicles in total PNFC investment}

            (               SV(-01)*ICC£(-01) +               SV(-02)*ICC£(-02)
            +               SV(-03)*ICC£(-03) +               SV(-04)*ICC£(-04)

            + (1-SV(-5))   *SV(-05)*ICC£(-05) + (1-SV(-06))  *SV(-06)*ICC£(-06)
            + (1-SV(-7))   *SV(-07)*ICC£(-07) + (1-SV(-08))  *SV(-08)*ICC£(-08)

            + (1-SV(-9) )^2*SV(-09)*ICC£(-09) + (1-SV(-10))^2*SV(-10)*ICC£(-10)
            + (1-SV(-11))^2*SV(-11)*ICC£(-11) + (1-SV(-12))^2*SV(-12)*ICC£(-12)

            + (1-SV(-13))^3*SV(-13)*ICC£(-13) + (1-SV(-14))^3*SV(-14)*ICC£(-14)
            + (1-SV(-15))^3*SV(-15)*ICC£(-15) + (1-SV(-16))^3*SV(-16)*ICC£(-16)

            + (1-SV(-17))^4*SV(-17)*ICC£(-17) + (1-SV(-18))^4*SV(-18)*ICC£(-18)
            + (1-SV(-19))^4*SV(-19)*ICC£(-19) + (1-SV(-20))^4*SV(-20)*ICC£(-20))

      +  0.0229* {NB weight of vehicles in FINCO investment}

            (               SV(-01)*IFC£(-01) +               SV(-02)*IFC£(-02)
            +               SV(-03)*IFC£(-03) +               SV(-04)*IFC£(-04)

            + (1-SV(-5))   *SV(-05)*IFC£(-05) + (1-SV(-06))  *SV(-06)*IFC£(-06)
            + (1-SV(-7))   *SV(-07)*IFC£(-07) + (1-SV(-08))  *SV(-08)*IFC£(-08)

            + (1-SV(-9) )^2*SV(-09)*IFC£(-09) + (1-SV(-10))^2*SV(-10)*IFC£(-10)
            + (1-SV(-11))^2*SV(-11)*IFC£(-11) + (1-SV(-12))^2*SV(-12)*IFC£(-12)

            + (1-SV(-13))^3*SV(-13)*IFC£(-13) + (1-SV(-14))^3*SV(-14)*IFC£(-14)
            + (1-SV(-15))^3*SV(-15)*IFC£(-15) + (1-SV(-16))^3*SV(-16)*IFC£(-16)

            + (1-SV(-17))^4*SV(-17)*IFC£(-17) + (1-SV(-18))^4*SV(-18)*IFC£(-18)
            + (1-SV(-19))^4*SV(-19)*IFC£(-19) + (1-SV(-20))^4*SV(-20)*IFC£(-20))

      +  0.5653* {NB weight of plant & machinery in FINCO investment}

            (                           FP(-01)*IFC£(-01)
            +                           FP(-02)*IFC£(-02)
            +                           FP(-03)*IFC£(-03)
            +                           FP(-04)*IFC£(-04)

            +               SP(-05)*(1-FP(-05))*IFC£(-05)
            +               SP(-06)*(1-FP(-06))*IFC£(-06)
            +               SP(-07)*(1-FP(-07))*IFC£(-07)
            +               SP(-08)*(1-FP(-08))*IFC£(-08)
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            + (1-SP(-09))  *SP(-09)*(1-FP(-09))*IFC£(-09)
            + (1-SP(-10))  *SP(-10)*(1-FP(-10))*IFC£(-10)
            + (1-SP(-11))  *SP(-11)*(1-FP(-11))*IFC£(-11)
            + (1-SP(-12))  *SP(-12)*(1-FP(-12))*IFC£(-12)

            + (1-SP(-13))^2*SP(-13)*(1-FP(-13))*IFC£(-13)
            + (1-SP(-14))^2*SP(-14)*(1-FP(-14))*IFC£(-14)
            + (1-SP(-15))^2*SP(-15)*(1-FP(-15))*IFC£(-15)
            + (1-SP(-16))^2*SP(-16)*(1-FP(-16))*IFC£(-16)

            + (1-SP(-17))^3*SP(-17)*(1-FP(-17))*IFC£(-17)
            + (1-SP(-18))^3*SP(-18)*(1-FP(-18))*IFC£(-18)
            + (1-SP(-19))^3*SP(-19)*(1-FP(-19))*IFC£(-19)
            + (1-SP(-20))^3*SP(-20)*(1-FP(-20))*IFC£(-20))

      +  0.4771* {NB weight of plant & machinery in PNFC investment}

            (                           FP(-01)*ICC£(-01)
            +                           FP(-02)*ICC£(-02)
            +                           FP(-03)*ICC£(-03)
            +                           FP(-04)*ICC£(-04)

            +               SP(-05)*(1-FP(-05))*ICC£(-05)
            +               SP(-06)*(1-FP(-06))*ICC£(-06)
            +               SP(-07)*(1-FP(-07))*ICC£(-07)
            +               SP(-08)*(1-FP(-08))*ICC£(-08)

            + (1-SP(-09))  *SP(-09)*(1-FP(-09))*ICC£(-09)
            + (1-SP(-10))  *SP(-10)*(1-FP(-10))*ICC£(-10)
            + (1-SP(-11))  *SP(-11)*(1-FP(-11))*ICC£(-11)
            + (1-SP(-12))  *SP(-12)*(1-FP(-12))*ICC£(-12)

            + (1-SP(-13))^2*SP(-13)*(1-FP(-13))*ICC£(-13)
            + (1-SP(-14))^2*SP(-14)*(1-FP(-14))*ICC£(-14)
            + (1-SP(-15))^2*SP(-15)*(1-FP(-15))*ICC£(-15)
            + (1-SP(-16))^2*SP(-16)*(1-FP(-16))*ICC£(-16)

            + (1-SP(-17))^3*SP(-17)*(1-FP(-17))*ICC£(-17)
            + (1-SP(-18))^3*SP(-18)*(1-FP(-18))*ICC£(-18)
            + (1-SP(-19))^3*SP(-19)*(1-FP(-19))*ICC£(-19)
            + (1-SP(-20))^3*SP(-20)*(1-FP(-20))*ICC£(-20))

      +  0.3033* {NB weight of buildings in PNFC investment}

            (  FIB(-1)*ICC£(-1) + FIB(-2)*ICC£(-2)
            +  FIB(-3)*ICC£(-3) + FIB(-4)*ICC£(-4) + SIBICC(-5))  )*Q1 ;

*C Advance Corporation Tax receipts                        ACCN  T2.1C,FS   NV0606

TCACT = TCACT(-1) ;

*C North Sea ACT receipts                                  ----       HMT   NV0606

NSACT = NSACT(-1) ;

*C Corporation tax rate                                    ----       HMT   NV0606

TCPRO = TCPRO(-1) ;

*C Corporation tax rate: old regime                        ----       HMT   NV0606

CT1 = CT1(-1) ;

*C Corporation tax rate: new regime                        ----       HMT   NV0606
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CT2 = CT2(-1) ;

*C Proxy for taxable profits                                  ----       HMT   NV0606

INC = (NNSCTP + NSCTP + PRT + NSROY + TCACT - NSGTP + SAVCO

       + 1.7*NDIVHH + 0.30*DIPD)*TCPRO ;

*C Mainstream CT prior to 1998Q4 - see NNSCTP                 ----       HMT   NV0606

XNNSCT = ( 1.23630*(distlag(INC(-1),4,1))

       -   0.75674*(distlag(TCACT,4,1) - distlag(NSACT,4,1)
                              + CAPAL*distlag(TCPRO(-1),4,1)/4)

       -   0.019642*((distlag(CBIBC(-1),4,1)/4)*
                    (distlag(INC(-1),4,1)
                      - (distlag(TCACT,4,1) - distlag(NSACT,4,1))
                                    - CAPAL*distlag(TCPRO(-1),4,1)/4))

       -   1437)/4*Q2 + (1 - Q2)*XNNSCT(-1) ;

*C Onshore mainstream corporation tax     ACCD-ACCN-DBBD-DKGZ  T2.1C,FS   NV0606

NNSCTP = (CT1*XNNSCT + CT2*(1.23630*INC(-1)

       - 0.75674*(TCACT - NSACT
                        + (distlag(CAPAL,4,1)*distlag(TCPRO(-1),4,1)/4)
                             *(Q1+Q2+Q3+Q4)/4)

       - 0.019642*CBIBC(-1)*(INC(-1) - (TCACT - NSACT)
                        - (distlag(CAPAL,4,1)*distlag(TCPRO(-1),4,1)/4)
                             *(Q1+Q2+Q3+Q4)/4) + 5250))

       *(1 - ifle(199804)) + ifle(199804)*XNNSCT ;


*C Capital taxes on companies                                 DKGZ      D512   NV0607

TXKCO = TXKCO(-1) ;

*C Corporation tax                                ACCD-MDXH+JPPT  T2.1C,FS   NV0606

CT = TCACT + NSCTP + NNSCTP + TXKCO + PCOTC + RLCOTC ;

*C Other company taxes on investment                          GRXE     -----   NV0606

TCINV = TPBRZ*(0.18*(DICGOP + DICGPC + DICGLA)

      + 0.21*(DILAPR + DILACG + DILAPC)) ;

*C Windfall tax                                               EYNK  T2.1C,FS   NV0606

WINDT = 0 ;

*C Spectrum accruals                                          BKTK     -----   NV0606

MOBREV = MOBREV(-1) ;

*C Spectrum accruals adjustment                              -BKTC     -----   NV0606

MOBACC = MOBREV ;

*C Net taxes & social security contributions                  ----       HMT   NV0606

NTSSC  = (INCTAXG - TAXCRED + EENIC + EMPNIC - NICAC) + (CGT + INHT + TSD)
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       + (VREC + LAVAT + XLAVAT + TXALC + TXTOB + TXFUEL + TXMIS)
       + (OCT + BETPRF + BETLEVY - BBC - PASSPORT)
       + (CC + CCACC + NNDRA + LANNDR - NNDACC)
       + (CT - RLCOTC + PRT + NSROY + WINDT - CCLACA) + OFGEM
       + LAPT + OPT + EUOT ;

{======== Group 11: Balance of Payments ======================================}
*C GDP-weighted 3 month interest rate: EU+US+Japan+Canada           HMT   NV0207
ROSHT = ROSHT(-1) ;
*C Sterling effective exchange rate               BK67(AGBG)  T7.1A,FS   NV0206
log(RX) = log(RXE*(1 + 0.0025*RS)/(1 + 0.0025*ROSHT))
        + 0.24*(CB/(GDPM£ - BPA£)) - (log(PXNO(-1)/WPG(-1))
        + log(PXNO(-3)/WPG(-3)) - 2*log(PXNO(-2)/WPG(-2))) ;
*C Expected sterling effective exchange rate         BK67(+1)  T7.1A,FS   NV0206
log(RXE) = log(RX(-1)) ;
*C Sterling-dollar cross rate: $/£                       AUSS  T7.1A,FS   NV0206
*M  RXD   = 0.01830804*RX ;
*C Sterling-euro exchange rate: Euro/£                   THAP  T7.1A,FS   NV0206
*M  ECUPO = ((1.3725/(1-0.32))*(RX/100 - 0.32*RXD/1.7850)) ;
*C GDP-weighted 10y: EU+US+Japan+Canada                          HMT   NV0207
ROLT = ROLT(-1) ;
*C World equity prices, GDP weighted                             HMT   NV0906
WEQPR = WEQPR(-1) ;
*C Balancing item in BoP account                         HHDH   T1.1,PB   NV1106
BAL = 0 ;
*C Stock of Assets                  HBQA-HCFQ-NLDA-HFBB-LTEB   T8.1,PB   NV????
SAS = ((((1 + 0.62702*(RXD(-1)/RXD - 1) + (1 - 0.62702)*(RX(-1)/RX - 1))
      *( 1 + 0.25511*(WEQPR/WEQPR(-1) - 1) + 0.05*(ROLT(-1)/ROLT - 1.0)))
    - 0.10951)*SAS(-1)/GVA£ - 1.028 + 0.012698*(time(197001) + 28))*GVA£ ;
*C Stock of Liabilities                  HBQB-HCFQ-NLDA-HFBB   T8.1,PB   NV????
SL = (( - BAL - CB
   + SL(-1)*(1 + 0.2786*(RXD(-1)/RXD - 1) + 0.1*(RX(-1)/RX - 1) +
      0.3735*(EQPR/EQPR(-1) - 1) + 0.05*(RL(-1)/RL - 1))
```

```
   - 0.10951*SAS(-1))/GVA£ - 1.028 + 0.012698*(time(197001) + 28))*GVA£ ;

*C Changes in reserve assets                        AIPA(LTCV)  T1.2A,FS   NV0407

diff(DRES) = 0 ;

*C Stock of reserve assets                          AIPD(LTEB)  T1.1D,FS   NV0407

SRES = -DRES + ( 1 + 0.27*(RXD(-1)/RXD - 1) + 0.25*(RX(-1)/RX - 1))*SRES(-1) ;

*C Rate of return on stock of liabilities                         HMT   NV????

RSL = (0.45348 + 0.11*RS + 0.55*RL + 0.05*(100*FYCPR/GDPM£ - 17)

    + (0.01*0.06*PBRENT)/(RXD*PGDP)) ;

*C Rate of return on stock of assets                              HMT   NV????

RSA = (RSL + 0.45*(ROLT - RL) + 0.09*(ROSHT -RS) + 1.62) ;

*C Interest, Profits & Dividends: Credits                      T4.1,PB   NV0307

CIPD = (RSA/100)*0.25*(SAS + SAS(-1))/2 ; {HBOK-(CGGT-HCAT)-HCEH-HHCC}

*C Interest, Profits & Dividends: Debits                       T4.1,PB   NV1005

DIPD = (RSL/100)*0.25*(SL + SL(-1))/2 ;   {HBOL-(CGGT-HCAT)-HCEH}

*C CG IPD credits: earnings on reserves (BoP)          HHCC     TG,BP   NV1005

diff(CGCBOP) = diff(CGC) ;

*C Investment income balance                           HBOM     TG,PB   NV1005

NIPD = CIPD - DIPD + CGCBOP ;

*C Employees compensation due abroad                   IJAI   T4.1,PB   NV1005

EECOMPD = 0.0017189*FYEMP ;

*C Employees compensation from abroad                  IJAH   T4.1,PB   NV1005

EECOMPC = EECOMPC(-1) ;

*C EU subsidies on products              FKNG(ZXIA-ZJZD+FHHS)  TA42,EA   NV1007

EUSUBP  = 0 ;

*C EU subsidies on production                       FHLK(ZJZD)  TA42,EA   NV1007

EUSUBPR = EUSUBPR(-1)*ECUPO(-1)/ECUPO ;

*C Receipts from EU social fund                        H5U3     TH,BP   NV0106

EUSF = EUSF(-1)*ECUPO(-1)/ECUPO ;

*C Net EC contributions (BoP basis)                 -FKKL-FKIJ   T5.1,PB   NV0106

ECNET = (1 - 0.5*(ECUPO(-1)/ECUPO - 1))*ECNET(-1) ;

*C UK 4th resource contribution to EU                HCSO+HCSM   T5.1,PB   NV0106

GNP4 = 0.010*((GDPM£ + NIPD + EECOMPC - EECOMPD)/ECUPO(-4)) ;

*C UK VAT payments to the EU                         HCML+FSVL   T5.1,PB   NV0506
```

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EUVAT = 0.0325*VREC/(0.8267*ECUPO(-4)) ;

*C Payments of taxes on products to EU              FJWE+FJWG   T5.1,PB   NV0606

ratio(EUOT) = ratio(GDPM£) ;

*C Social security benefits paid abroad                 FLUK   T5.1,PB   NV0106

BENAB = 0.012*CGSB ;

*C CG non-EC transfer debits             FJUO-FJCK-HCSO-HCSM   T5.1,PB   NV0207

TROD = TROD(-1) ;

*C Tax receipts from abroad                             CGDN   T5.1,PB   NV1005

CGITFA = 0.0039380*TYEM ;

*C Tax payments abroad                                  FLVE   T5.1,PB   NV1005

ITA = 0.001115*WFP + 0*CIPD ;

*C HH transfer receipts from abroad           CGDO-NHRX-FLYE   T5.1,PB   NV1005

log(HHTFA) = log(HHTFA(-1)*RX(-1)/RX) ;

*C HH transfer payments abroad           CGDS-FLVY-FHLS-FLVE   T5.1,PB   NV1005

HHTA = 0.0074376*WFP ;

*C Non-life insurance claims & premiums             NHRX+FLVY   T5.1,PB   NV1005

INSURE = INSURE(-1) ;

*C Transfer credits                                     IKBN     TH,BP   NV1005

TRANC = EUSUBP + HHTFA + EUSF + CGITFA + EUSUBPR - ECNET + INSURE ;

*C Transfer debits                                      IKBO     TH,BP   NV1005

TRAND = TROD + EUVAT + EUOT + HHTA + GNP4 + BENAB + ITA + INSURE ;

*C Transfers balance                                    IKBP     TH,BP   NV1005

TRANB = TRANC - TRAND ;

*C Central Govt capital transfers abroad                FLWB     TI,BP   NV0106

CGKTA = 0.0424494*KCGPSO ;

*C Capital transfer payments from EU                    GTTY     TI,BP   NV0106

EUKT = EUKT(-1) ;

*C Migrants capital transfers from abroad               FHJC     TI,BP   NV0106

log(MIKTFA) = log(MIKTFA(-1)) ;

*C Migrants capital transfers abroad                    FLWJ     TI,BP   NV0106

log(MIKTA)  = log(MIKTA(-1)) ;

*C Other private sector capital transfers abroad    FLWI-FLWJ     TI,BP   NV0106

OPSKTA = OPSKTA(-1) ;
```

```
*C Net acquisition of non-produced non-fin. assets  FHJL-FLWT     TI,BP   NV0106
NPAA = NPAA(-1) ;
*C Current balance                                  HBOP     TB,BP   NV1005
CB  = TB + (EECOMPC - EECOMPD) + NIPD
    + (EUSUBP + HHTFA + EUSF + CGITFA + EUSUBPR - ECNET)
    - (TROD + EUVAT + EUOT + HHTA + GNP4 + BENAB + ITA) ;
*C Current balance % GDP                            AA6H   T1.1,PB   NV1005
CB% = (CB/GDPM£)*100 ;
*C Net lending by Rest of the World                 RQCH   TA12,EA   NV0308
NAFROW = - (CB + (EUKT + MIKTFA) - (CGKTA + MIKTA + OPSKTA) + NPAA) ;

{======== Group 12: Public Sector totals ====================================}
*C Gross Operating Surplus of Public Corporations   NRJT  PSAT2,PF   NV0306
OSPC = 0.025*OS ;
*C Public Corp. dividend payments to Local Authorities  ZYHZ     -----   NV0306
DVPCLA = DVPCLA(-1)*OSPC/OSPC(-1) ;
*C Public Corp. dividend payments to Central Government  ZYHY     -----   NV0306
DVPCCG = DVPCCG(-1) ;
*C PC interest & dividends from Private sector & RoW    GVHG  PSAT2,PF   NV0507
DIPRPC = DIPRPC(-1) ;
*C Debt interest receipts of Public Corporations    GVHH     -----   NV0306
DIRPC  = DIPRPC + DICGPC + DILAPC ;
*C PC interest payments to private sector & RoW      GZSO  PSAT2,PF   NV0306
DIPCOP = DIPCOP(-1) ;
*P PCDEP = 0.0080300 ; {PC depreciation rate ~ 3y ma (PCCON/PCSTOCK)}
*C Public Corp. capital consumption                 NSRM  PSAT2,PF   PM0907
PCCON = PCDEP*(PCSTOCK(-1)*DEPDEL + IPC£) - 25 ;
*C Public Corp. net capital stock                   CIXJ T1.1.1,CS   NV0107
PCSTOCK = (1 - PCDEP)*(PCSTOCK(-1)*DEPDEL + IPC£) ;
*C Public Corp's change in inventories & valuables  DHHL  PSAT2,PF   NV0306
IBPC = IBPC(-1) ;
*C Public Corp. onshore coporation tax payments     FCCS  PSAT2,PF   NV0306
TYPCO = TYPCO(-1) ;
*C PC net lending to private sector & RoW            ANRY  PSAT2,PF   NV0306
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PCLEND = PCLEND(-1) ;
*C PC misc. expenditure                                  ANRZ  PSAT2,PF   NV0306
PCMISE = PCMISE(-1) ;
*C Public Corp. accounts rec./paid                       ANVQ  PSAT2,PF   NV0306
PCAC = PCAC(-1) ;
*C Public Corp. adjustment for gilt interest             NCXS  PSAT2,PF   NV0306
PCGILT = PCGILT(-1) ;
*C Public Corp. other financial transactions             ANVU  PSAT2,PF   NV0306
MFTPC = MFTPC(-1) ;
*C FINCOs accruals adjustment                        DKHH+ZYBE     -----   NV0306
FCACA = FCACA(-1) ;
*C Public Sector taxes on Income & Wealth                ANSO  PSAT2,PF   NV0306
PUBSTIW = TYEM + TSEOP + PRT + TCINV + WINDT + CT + CGT + FCACA
        + BETPRF + BETLEVY + OFGEM - NPISHTC - NHNPTC - TYPCO - PFTC ;
*C Public Sector taxes on Production (& products)        NMYE  PSAT2,PF   NV0707
PUBSTPD = (CETAX - BETPRF) + EXDUTAC + XLAVAT + LAVAT - EUVAT - EUOT
        - CCLACA + TSD + ROCS + TXMIS + RFP
            + (NNDRA + NIS + VEDCO + LAPT + OPT) ;
*C Public Sector Current Receipts                        ANBT  PSAT2,PF   NV0206
PSCR = PUBSTIW + PUBSTPD + OCT + CC + INHT + EENIC + EMPNIC
     + (RCGIM + RLAIM + OSPC) + PSINTR + (NSROY + MOBREV + RNCG + HHTCG)
     + LARENT + PCRENT ;
*C Public Sector Current Expenditure                     ANLT  PSAT2,PF   NV0307
PSCE = (CGWS + CGP + RCGIM + LAWS + LAPR + RLAIM) + (CGTSUB + LATSUB)
     + (CGSB + LASBHH) + CGNCGA + LANCGA + (CGOTR + LAOTRHH)
     + (DICGOP + DILAPR + DIPCOP) ;
*C Public Sector Depreciation                            ANNZ  PSAT2,PF   NV0306
DEP  = PCCON + RCGIM + RLAIM ;
*C Public Sector Current Budget                          ANMU  PSAT2,PF   NV0306
PSCB = PSCR - PSCE - DEP ;
*C PC capital grants from private sector                 ADSE  PSAT2,PF   NV0306
KPSPC = KPSPC(-1) ;
*C PC capital grants to private sector                   MIYZ  PSAT2,PF   NV0306
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KPCPS = KPCPS(-1) ;
*C PC capital grants from Central Government  -ANND-NMGR-NMGT     -----   NV0306
KCGPC = KCGPC(-1) ;
*C PC capital grants from Local Authorities              ADCF     -----   NV0306
KGLAPC = KGLAPC(-1) ;
*C Capital grants by CG to private sector & ROW          ANNI  PSAT2,PF   NV1005
KCGPSO = KCGPSO(-4)*PIF/PIF(-4) ;
*C Capital grants by private sector (&RoW) to CG         ANNN  PSAT2,PF   NV1005
KPSCG  = KPSCG(-1) ;
*C Capital grants by private sector (&RoW) to LA         ANNO  PSAT2,PF   NV0606
KGLA = 0.8*EUKT ;
*C Total capital transfers by LA                         NMNL   TA36,EA   NV1005
KLA = KLA(-4)*PIF/PIF(-4) ;
*C Capital grants by CG to LA                       NMGR+NMGT     -----   NV0506
KCGLA = KCGLA(-4)*PIF/PIF(-4) ;
*C CG net acquisitions Non-Produced Non-Fin. Assets      NMFG   TA31,EA   NV0506
NPACG = NPACG(-1) ;
*C LA net acquisitions Non-Produced Non-Fin. Assets      NMOD   TA31,EA   NV0506
NPALA = NPALA(-1) ;
*C Public Sector Gross Investment                                  HMT   NV0306
PSGI = CGI£ + LAI£ + IPC£ + IBPC + DINVCG + (NPACG + NPALA)
     + (KCGPSO - KPSCG) + (KLA - KGLAPC - KGLA) + (KPCPS - KPSPC)
     + ASSETSA ;
*C Public Sector fixed asset sales                                 HMT   NV0306
ASSETSA = ASSETSA(-1) ;
*C Public Sector Net Investment                          ANNW  PSAT2,PF   NV0306
PSNI = PSGI - DEP - ASSETSA ;
*C Total Managed Expenditure                  ANLT+ANNZ-ANNW  PSAT2,PF   NV0506
TME = PSCE + DEP + PSNI ;
*C Central Government Net Borrowing                   -NMFJ  PSAT2,PF   NV0507
CGNB  = (CGWS + CGP) + CGTSUB + CGSB + CGNCGA + CGCGLA + CGOTR + DICGOP
      + (CGI£ + NPACG) + DINVCG + (KCGLA + KCGPC) + KCGPSO - KPSCG
      - (PUBSTIW + TYPCO) - (PUBSTPD - LAPT) - (OCT + LANNDR) - INHT
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      - (EMPNIC + EENIC) - CGNDIV - CGINTRA  - (NSROY + RNCG + HHTCG + MOBREV) ;
*C Local Authority Net Borrowing                          -NMOE  PSAT2,PF   NV0307
LANB  = (LAWS + LAPR) + LATSUB + LASBHH + LANCGA - CGCGLA + LAOTRHH + DILAPR
      + (LAI£ + NPALA) - KCGLA + (KLA - KGLAPC) - KGLA
      - LAPT - (CC - LANNDR) - LAINTRA - LANDIV - LARENT ;
*C General Govt Net Borrowing (NSA)                       -NNBK  PSAT2,PF   NV0206
GGNB   = CGNB + LANB ;
*C Public Corporations Net Borrowing (NSA)                -CPCM  PSAT2,PF   NV0206
PCNB = DIPCOP + IPC£ + IBPC - (KCGPC + KGLAPC) + KPCPS - KPSPC
     + TYPCO - OSPC - PCNDIV - PCINTRA - PCRENT ;
*C Public Sector Net Borrowing (NSA)                      -ANNX  PSAT2,PF   NV0506
PSNBNSA = - PSCB + PSNI ;
*C Public Sector Net Borrowing (CYSA)                -RQBN-RPZD T14.5E,FS   NV0506
PSNBCY  = PSNBNSA ;
*C Swap adjustments                                        CFZG     -----   NV0206
SWAPS = 0 ;
*C CG net borrowing: Maastricht definition                 MDUK       HMT   NV0906
TDEF = CGNB + LANB + SWAPS ;
*C CG loans & sales of financial assets             ANRH+ANRS  PSAT2,PF   NV0306
CGLSFA = (LCGOS + LCGPR) + (CGMISP - NPRIVP) ;
*C Public Sector loans & sales of financial assets  ANSU+ANSV  PSAT2,PF   NV0306
PSLSFA  = CGLSFA + (LALEND + LAMISE) + (PCLEND + PCMISE) {adjust(PCBRO)} ;
*C Council Tax accruals adjustment                  -CDXW-ADDC     -----   NV0606
CCACC = CCACC(-4) ;
*C LA NNDR accruals adjustment                       CULD-CCXN     -----   NV0606
LANDRAA = LANDRAA(-4) ;
*C LA accounts receivable/payable                         -ANML  PSAT2,PF   NV0606
LAAC = CCACC + LANDRAA ; {LAACADJ = CCACC + CGNDRAA + NNDACC}
*C LA misc. financial transactions                         ANMW  PSAT2,PF   NV0506
LAMFT = LAMFT(-1) ;
*C Accruals adjustment on conventional gilts        -GCSW-GCMR     -----   NV0506
CONACC = CONACC(-1) ;
*C CG misc. financial transactions                         -ANRV  PSAT2,PF   NV0506
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MFTRAN = MFTRAN(-1) ;
*C CG NNDR end-year adjustment                        LNPF+CULD     -----   NV0606
CGNDRAA = CGNDRAA(-4) ;
*C NNDR end-year adjustment          CUKY+CQOQ+CQTC-CEIP-LNFO     -----   NV0606
NNDACC = NNDACC(-1) ;
*C CG accruals adjustment residual                    see doc.  PSAT2,PF   NV0606
{ ANRT -(RUSD+ACJY+(CYNX+RUTC+DKHE+DBKE)+(LNFP+CULD)-BKTC+(DKHH+ZYBE)) }
CGACRES = 0 ;
*C Central Govt accruals adjustments           ANRT+ANRU+ANRV  PSAT2,PF   NV0306
CGACADJ = (EXDUTAC + NICAC + INCTAC) + CGNDRAA + MOBACC + FCACA
        + CGACRES + (ILGAC + CONACC) - MFTRAN ;
*C Public Sector accruals adjustments          ANSW+ANSX+ANSY  PSAT2,PF   NV0306
PSACADJ = CGACADJ - LAAC + LAMFT + PCAC + PCGILT + MFTPC {adjust(LABRO)} ;
*C Public Sector Financial Assets                    NKFB+NPUP T12.1K,FS   NV1005
PSFA  = PSFA(-1)  ;
*C Other Public Sector Financial Liabilities        NKIF+NPVQ-NIJI-ACUA   NV1005
OFLPS = OFLPS(-1) ;
*C Stock of Index-linked gilts (market value)                      HMT   NV1105
diff(MKTIG)=diff(REVIG) ;
*C Stock of CG gilts excluding linkers             NIJI-MKTIG T12.1L,FS   NV0507
CGGILTS = CGGILTS(-1)*(1 + GILTRATE(-1)/100)/(1 + GILTRATE/100)
        + 0.5*(dGILT - dILGILT)*(1 + (1+GILTRATE(-1)/100)/(1+GILTRATE/100)) ;
*C Public Sector Financial Liabilities               NKIF+NPVQ T12.1K,FS   NV1005
PSFL = CGGILTS + OFLPS + NATSAV + MKTIG ;
*C Public Sector Tangible Assets (end period)            CGJA T10.11,BB   NV1005
PSTA = PSTA(-1)*ratio(PIF)
     + 0.5*(PSNI + KCGPC + KGLAPC - KLA - KCGPSO - NPRIVP)*(1 + ratio(GGIDEF)) ;
*C Public Sector Net Worth (end period)                  CGTY T10.11,BB   NV1005
PSNW = PSTA + PSFA - PSFL ;

{======== Group 14: Domestic financial sector ================================}
*C Short rates: 3 month inter-bank rate                  AMIJ  T7.10,FS   NV0907
diff(RS) = 0 ;
```

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*C Long rates: 20 year gilt yield                    AJTU(AJLX)  T7.10,FS   NV0206
RL = RL(-1) - 6.6025*dlog(RX) + 0.64109*diff(ROLT) + 0.23966*diff(ROLT(-1))
   - 0.86131*log(EQPR/EQPR(-2)) - 0.12144*(RL(-1)-RL(-3))
   - 0.062*(RL(-1) - RS(-1))+ 0.23338*diff(RS) - 0.039263 ;
*C Building Soc. average mortgage rate                  AJNL  T7.1L,FS   RA0907
RMORT = RS + 0.45 ;
*C Building Soc. share & deposit average rate           AJNV  T7.1L,FS   RA1007
diff(RDEP) = 0.6{0.75}*diff(RS)-0.27*(RDEP(-1)+0.5{0.66}-RS(-1));
*C Rate of return on National Savings                    NSI             NV1105
diff(RNS) = 0.49237*(RDEP*(1 - TPBRZ(-1)) - RDEP(-1)*(1 - TPBRZ(-2)))
          + 0.11088*(RDEP(-1)*(1 - TPBRZ(-2)) - RNS(-1)) - 0.042818 ;
*C Real interest rate on index-linked gilts              HMT  T7.1D,FS   RA0907
RILG = 0.30082*( 0.60*RS + (1-0.60)*RL - (ratio4(PR)*100-100))
     + 1.6229 + 0.64108*ifle(199702) ;
*C Equity price index: FT all-share                     HSEL     -----   NV0206
dlog(EQPR) = -0.24438*log(EQPR(-1)/NDIVHH) - 0.095187*log(RL) + 0.33415
           - 0.068969*(ifeq(199903) - ifeq(199904)) - 0.21866*ifge(198704) ;
*C Notes & coins in circulation outside BoE             AVAB  T3.1A,FS   NV0206
dlog(M0) = dlog(PGDP) + 0.20311*(dlog(M0(-1)) - dlog(PGDP(-1)))
         - 0.10069*log(M0(-1)/GDPM£(-1))
         + 0.3331*(log(GDPM)+ log(GDPM(-2))- 2*log(GDPM(-1)))
         - 0.004514*(RDEP(-1)*(1 - TPBRZ(-2))) + 0.019646*ifeq(199904)
         - 0.000863*min((time(197001)+28),128) - 0.073283 ;
*C Broad money (M4), (FYSA)                             AUYN  T3.1G,FS   NV0206
dlog(M4) = dlog(PCE) - 0.042894*log(M4(-1)/GFWPE(-1))
         + 0.31211*(dlog(M4(-1)) - dlog(PCE(-1))) + 0.58112*dlog(GDPM)
         + 0.002821*(RS - 0.5*(RS+RL)) - 0.013111 - 0.000236*(time(197001)+28)
         - 0.05196*ifeq(199703) ;
*C HH loans secured on dwellings                        NNRP   TA64,EA   NV0206
dlog(LHP) = 0.421250*dlog(LHP(-1)) - 0.05196*log(LHP(-1)/GPW(-1))
          - 0.006164*log(UNUKP(-1)) + .091352*(dlog(APH) - dlog(PCE))
          - 0.001698*RHF + 0.325920 - 0.011846*ifeq(198804) ;
*C HH other financial liabilities                   NNPP-NNRP   TA64,EA   NV0206
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```
dlog(OLPE) = dlog(PCE) - 0.2909*log(OLPE(-1)/PCE(-1)) + 0.37476*dlog(RHHDI(-1))
           + 0.20866*dlog(RHHDI(-2)) - 0.086485*log(UNUKP(-1)) + 2.3669
           - 0.001625*(RS(-1) - 100*(PCE(-1)/PCE(-5)-1.0)) ;
*C HH statistical adjustment on financial account        NZDV   TA53,EA   NV1006
UNIDPE = UNIDPE(-1) ;
*C HH net financial wealth                               NZEA   TA64,EA   NV0206
*W RXREV = 0.43*(RXD(-1)/RXD) + (1 - 0.43)*(RX(-1)/RX) ;
NFWPE = - LHP(-1) - OLPE(-1) - UNIDPE + NAFHH
      + (0.36*ratio(EQPR) + 0.11*(RL(-1)/RL) + 0.07*ratio(PGDP) + 0.38
      + 0.08*(0.75*ratio(WEQPR) + 0.25*(ROLT(-1)/ROLT))*RXREV)
      * (NFWPE(-1) + OLPE(-1) + LHP(-1)) ;
*C HH gross financial wealth                             NNML   TA64,EA   NV0206
GFWPE = NFWPE + LHP + OLPE ;
*C Bank borrowing by PNFCs (short term)            NLBF+NLBG T12.1D,FS   NV1005
dlog(BBIC) = 0.354290*dlog(BBIC(-1)) - 0.092656*log(BBIC(-1)/ICC£(-1))
           + 0.095404*dlog(ICC£) - 0.19621*dlog(RX) + 0.22781 ;
*C BoE Issue Dept holdings of commercial bills            HMT            NV0807
diff(IDBILL) = 0 ;
*C Short term interest payments by PNFCs                  HMT            NV0807
STIPIC =   ((1 + (RS + 1.93)/100 )^.25-1)*(BBIC(-1)-IDBILL(-1)) +
       0.8*((1 + (RS - 0.26)/100 )^.25-1)*IDBILL(-1) ;
*C PNFC'S gross liquid assets                            AIEL T12.1D,FS   NV????
LIQIC = ((1 + 0.18*(0.2*RX(-1)/RX + 0.8*RXD(-1)/RXD - 1))*LIQIC(-1)
      + NAFIC + diff(BBIC)) ;

{======== Group 15: Income Account ==========================================}
*C Wages & salaries inc. benefits in kind          DTWM-ROYK    TA3,EA   NV0507
WFP = ADJW*PSAVEI*(EPS-ES+EOIL) + 0.046842814*ERCG*ECG + 0.033716902*ERLA*ELA ;
*C Mixed income                                  RNKX(ROYH)   TA12,EA   NV0106
dlog(MI) = dlog(ES) + 0.38422*(dlog(MI(-1))-dlog(ES(-1)))
         - 0.066988*log(MI(-1)/(ES(-1)*PSAVEI(-1))) - 0.20718
         + 0.052219*(ifeq(199601) - ifeq(199602))
         - 0.040964*(ifeq(200002) - ifeq(200003))
         - 0.040736*(ifeq(200104) - ifeq(200201));
```

```
*C Employers' social contributions                          ROYK T6.1.4S,BB   NV1005
EMPSC  = EMPISC + CGASC + EMPNIC + EMPCPP ;
*C Compensation of employees                                 DTWM    TA3,EA   NV1105
FYEMP = WFP + EMPSC ;
*C Employers' imputed social contributions                  NQDK T6.1.4S,BB   NV1005
EMPISC = HHISC + LASC + CGISC + 0.007005*WFP ;
*C Household imputed social contributions                   RVFH T6.1.4S,BB   NV1005
HHISC = 0.000861*WFP ;
*C Household social benefits                                QWMZ T6.1.4S,BB   NV1005
HHSB = 2*HHISC ;
*C HH private funded social benefits (pensions)             RNLL T6.1.4S,BB   RA0108
ratio(OSB) = ratio(PCE) ;
*C Household social benefits                                RPHL T6.1.4S,BB   NV1005
SBHH = EMPISC + OSB + (HHSB - HHISC) + CGSB + LASBHH + EESCLA + EESCCG +
       CGASC - BENAB ;
*C Household current taxes on income & wealth          RPHS+RPHT   TA38,EA   NV1105
TYWHH = TYEM + TSEOP + CC + CGT + OCT - NPISHTC + 0*CGITFA + 0*ITA ;
*C Net misc. transfer receipts of HH (&NPISH)          RPHO-RPID T6.1.4,BB   RA0807
NMTRHH = LAOTRHH + (CGOTR-HHTCG) + (HHTFA-HHTA) + (EUSF-GNP4) + 0.00280*FYCPR ;
*C Total interest payments of HH (&NPISH)                    ROYU   TA37,EA   NV0208
DIPHH =  LHP(-1)*((1 + RMORT/100)^0.25 - 1)
      + OLPE(-1)*((1 + (RS + 0.764)/100)^0.25 - 1)
      + 0.011003*DIPD + 0*((1+(RS+5)/100)^.25-1)*SLCGPR ;
*C Total interest receipts of HH (&NPISH)                    ROYM   TA37,EA   NV0208
DIRHH = 0.54314*M4(-1)*((1+(RDEP -0.68738)/100)^.25-1) + DIPNSC
      + 0.05079*DIPLDC + 0.00834*CIPD ;
*C Withdrawals of income from quasi-corporations, D422       NBOJ   TA20,EA   NV0807
WYQC = 0.08880*(GTPIC-NSGTP) ;
*C Dividend receipts of HH (&NPISH), D421                    NRKU T6.1.3,BB   NV0106
ratio(NDIVHH) = ratio(GDPM£) ;
*C Attributed property income of ins. policy holders         ROYP   TA37,EA   NV0807
APIIH = 0.95*(IILG + ILGUP) + 0.02253*((1+(RDEP+0)/100)^.25-1)*M4(-1)
      + 0.75296*DIPLDC + 0.14566*CIPD + 0.93100*NDIVHH ;
```

```
*C Property income rec'd by HH (&NPISH)                  ROYL   TA37,EA   NV1005
PIRHH = NDIVHH + APIIH + DIRHH + WYQC ;
*C Property income paid by HH (&NPISH)                   ROYT   TA37,EA   NV1005
PIPHH = DIPHH ;
*C Employees' pension contributions                     RNNN T6.1.4S,BB   RA0707
*M ratio4(EECPP)=ratio4(APIIH) ;
*C Employees' social contributions                  RPHX+RPHY   TA38,EA   NV1105
EESC = EESCLA + EENIC + EECPP + EESCCG ;
*C Household disposable income                           RPHQ   TA38,EA   NV1105
HHDI = MI + FYEMP - EMPSC - EESC - TYWHH + NMTRHH  + SBHH + (PIRHH - PIPHH)
     - HHSB + HHISC + (EECOMPC - EECOMPD) + OSHH ;
*C Real household disposable income                      NRJR   TA38,EA   NV1105
RHHDI = 100*HHDI/PCE ;
*C Employers' contributions to funded pension schemes   RNNG T6.1.4S,BB   NV1105
EMPCPP = 0.075830759*WFP ;
*C Adj. for change in net equity of HH pension funds     NRJR   TA40,EA   NV1105
NEAHH = EMPCPP + EECPP - OSB ;
*C Household (&NPISH) gross saving                       RPQL   TA40,EA   NV1105
SVHH = HHDI + NEAHH - C£ ;
*C Households' saving ratio                              NRJS   TA40,EA   NV1105
SY = 100*(SVHH/(NEAHH+HHDI)) ;
*C Net capital transfers of HH (&NPISH)   RPVO+RPVP-RPVS-RPVT   TA41,EA   NV1005
KGHH = - INHT + MIKTFA - MIKTA + 0.95*KLA + 0.55*KCGPSO + 0.4*EUKT ;
*C Net acquisition of financial assets: HH               RPZT   TA41,EA   NV1005
NAFHH = SVHH + KGHH - DINVHH - VALHH - NPAHH - IHH£ ;
*C Net acquisition of financial assets: companies   RPYN+RQBV   TA22,EA   NV1105
NAFCO = -NAFHH + CB + EUKT + (MIKTFA - MIKTA) - CGKTA - OPSKTA + NPAA
      + SDE£ - SDI + PSNBCY ;
*C Net acquisition of financial assets: FINCOs           RPYN   TA26,EA   NV1105
NAFFC = NAFFC(-1) ;
*C Net acquisition of financial assets: PNFCs            RQBV   TA22,EA   NV1105
NAFIC = NAFCO - NAFFC ;
*C Company gross saving: PNFCs & FINCOs              RPKZ+RPPS   TA22,EA   NV1105
```

```
SAVCO = NAFCO + KGHH - DINVHH + DINV£ - DINVCG + VAL£ - VALHH - NPAHH
      + IF£ - IHH£ - NPACG - CGI£ - KLA - KCGPSO - LAI£ - NPALA + INHT
      + KGLA - EUKT - MIKTFA + MIKTA + CGKTA + OPSKTA - NPAA - IPC£ - IBPC ;
*C Gross Trading Profits: PNFCs                    CAED+CAGD    TK1,QA   NV1005
GTPIC = FYCPR ;

{======== Group 16: Gross Domestic Product ===================================}
*C Total Final Expenditure at current prices            ABMF    TA2,EA   NV1205
TFE£  = CGG£ + C£ + DINV£ + VAL£ + IF£ + X£ ;
TFE£X = CGG£ + C£ + DINV£ + VAL£ + IF£ + (X£-XMTIC£) ;
*C Statistical Discrepancy: GDP(E)                      GIXM    TA2,EA   NV1205
SDE£ = PGDP*SDE/100 ;
*C Gross Domestic Product at market prices              YBHA    TA2,EA   NV1205
GDPM£ = TFE£ - M£ + SDE£ ;
*C Gross Domestic Product at market prices NSA          BKTL    TA2,EA   NV1205
MGDPNSA = GDPM£ ;
*C Basic Price Adjustment at current prices   YBHA-ABML(NTAP)    TA1,EA   NV0307
BPA£ = (CETAX - BETPRF) + EXDUTAC + XLAVAT + LAVAT + TSD + TXMIS + ROCS
       - (EUSUBP + LASUBP + CGSUBP + CCLACA) ;
*C Gross Value Added at basic prices                    ABML    TA1,EA   NV1205
GVA£ = GDPM£ - BPA£ ;
*C Total Final Expenditure at constant prices           ABMG    TA2,EA   NV1205
TFE  = CGG + C + DINV + VAL + IF + X ;
TFEX = CGG + C + DINV + VAL + IF + (X-XMTIC) ;
*C Statistical Discrepancy: GDP(E)                      GIXS    TA2,EA   NV1205
SDE = SDE(-1) ;
*C Gross Domestic Product at market prices, CVM         ABMI    TA2,EA   NV1205
GDPM = TFE - M + SDE ;
*C Basic Price Adjustment, CVM                          NTAO    TA1,EA   NV1205
ratio(BPA) = ratio(GDPM) ;
*C Gross Value Added at basic prices, CVM               ABMM    TA1,EA   NV1205
GVA = GDPM - BPA ;
*C Gross Value Added deflator                           CGBV    TA1,EA   NV1205
```

```
PGVA = 100*GVA£/GVA ;

*C Gross Domestic Product deflator                          YBGB    TA1,EA   NV1205

PGDP = 100*GDPM£/GDPM ;

*C Taxes less subsidies on production                CMVL-NTAP    TA1,EA   NV0307

TPROD£ = NNDRA + NIS + VEDCO + OPT + LAPT - CGSUBPR - LASUBPR - EUSUBPR ;

*C Taxes less subsidies on production, CVM           ABMM-YBHH    TA1,EA   NV1205

ratio(TPROD) = ratio(GVA) ;

*C Gross Domestic Product at factor cost, CVM             YBHH    TA1,EA   NV1205

GFC = GVA - TPROD ;

*C GDP income measure at market prices                   YBHA    TA1,EA   NV1205

GDPI = GDPM£ ;

*C Statistical Discrepancy: GDP(I)                       GIXQ    TA3,EA   NV1205

SDI = SDI(-1) ;

*C Whole economy Gross Operating Surplus                 ABNG   TA11,EA   NV1205

OS = GDPI - FYEMP - MI - BPA£ - TPROD£ - SDI ;

*C Private sector companies rental income           DTWR+DTWS    TK1,QA   NV1205

ratio(RENTCO) = ratio(GDPM£) ;

*C Household & NPISH Gross Operating Surplus             CAEN   TA11,EA   NV1205

ratio(OSHH) = ratio(GDPM£) ;

*C Gross trading profits of all companies      CAED+CAGD+RITQ   TA11,EA   NV1205

FYCPR = OS - OSHH - OSGG - OSPC - RENTCO + SA  ;

*C Gross National Income at market prices                ABMZ   T1.2,BB   NV1205

GNI£ = GDPM£ + NIPD + (EECOMPC-EECOMPD) + (EUSUBPR+EUSUBP) - (EUOT+EUVAT) ;

*C Manufacturing GVA                                     CKYY    TA4,EA   NV????

log(MANGVA) = log(GVA) + (1.0 - 0.14935)*log(MANGVA(-1)/GVA(-1))
            + 0.24955*(dlog(MANGVA(-2))-dlog(GVA(-2)))
            - 0.051343*dlog(RPRICE) - 0.040646*log(RPRICE(-1))
            - 0.000403*(time(197001) - 54) - 0.93302 ;

*C Non-North sea GVA                                     UIZY    TA2,QA   NV0607

NNSGVA = GVA - NSGVA ;

*C Non-oil productivity (2003=100)                        HMT    ------   NV1205

NOPROD = NNSGVA/(0.079771*(WFJ - EOIL)) ;

{======== Group 20: PSNCR, Debt & Funding ====================================}
```

```
*C CG net lending to RoW                                    HEUC  PSAT2,PF   NV0506
LCGOS  = LCGOS(-1) ;
*C CG net lending to private sector                 ANRH-HEUC  PSAT2,PF   NV0506
LCGPR  = LCGPR(-1) ;
*C Net lending by CG to PCs                                 ABEI  T1.4A,FS   NV0506
LCGPC = LCGPC(-1) ;
*C Net lending by CG to LAs                                 ABEC  T1.3A,FS   NV0506
LCGLA = LCGLA(-1) ;
*C LA net lending to private sector & RoW                    ADDU  PSAT2,PF   NV0506
LALEND = LALEND(-1) ;
*C LA market borrowing net CG/PC debt                       AAZK  T1.1E,FS   NV0506
LABRO = LANB + LALEND + LAMISE - LCGLA - LAAC ;
*C PC market borrowing net CG/PC debt                       AAZL  T1.1E,FS   NV0506
PCBRO = PCNB - LCGPC + MFTPC ;
*C Stock of LA debt held by CG                 ADHC+ADKF+GVHA  T1.3B,FS   NV0506
SLCGLA = SLCGLA(-1) + LCGLA ;
*C Stock of LA market borrowing      ADKA-ADKE-ADKF+ADHA-ADHC  T1.3C,FS   NV0506
diff(SLAB) = 0 ;
*C Stock of LA monetary assets                    ADNA-ADNJ  T1.3D,FS   NV0506
diff(SLAM)   = diff(SLAB) - LABRO ;
*C Stock of private sector debt held by LAs    ADNJ+APEN+RDLA  T1.3D,FS   NV0506
diff(SLAPO)  = LALEND ;
*C Stock of PC debt held by CG                               EYXY  T1.1D,FS   NV0308
diff(SPCBCG) = LCGPC ;
*C Stock of CG lending to private sector  RCPH+RDZU+READ+RMAT     -----   NV0506
diff(SLCGPR) = LCGPR ;
*C CG Net Cash Requirement                                   RUUW  T1.2A,FS   NV0506
CGNCR = CGNB + CGLSFA + CGACADJ + LCGLA + LCGPC ;
*C Public Sector Net Cash Requirement                       RURQ  T1.2A,FS   NV0506
PSNCR = PSNBNSA + PSLSFA + PSACADJ ;
*C Stock of coins                                           NIIK T12.1L,FS   NV0506
ratio4(COIN) = ratio4(M0) ;
*C Change in stock of coins                                -EYMW  T1.2A,FS   NV0506
```

```
dCOIN = diff(COIN) ;

*C Stock of Treasury Bills                                  NIIV T12.1L,FS   NV0506

diff(TBILLS) =  0 ;

*C Stock of National Savings                                ACUA  T1.1D,FS   NV1105

*W RDEPNET = RDEP(-2)*(1-TPBRZ(-3)) ;

log(NATSAV) = log(GFWPE) + log(NATSAV(-1)/GFWPE(-1))

            + 0.030757*(diff(RNS(-2)) - (RDEPNET - RDEPNET(-1)))

            + 0.068471*(ifeq(200203)-ifeq(200204))
            + 0.083433*(ifeq(199803)-ifeq(199804))
            + 0.081585*(ifeq(198704)-ifeq(198801));

*C Natl. Savings: CGNCR financing                          -AACE  T1.2A,FS   NV0506

dNATSAV = diff(NATSAV) ;

*C Tax certificates: CGNCR financing                        ACRV  T1.2A,FS   NV0506

diff(TXCERT) = 0 ;

*C CG loans from monetary and fin. institutions              HMT     -----   NV0107

diff(CGOD) = 0 ;

*C CG loans from MFIs: CGNCR financing                      ANTB T12.1L,FS   NV0107

dCGOD = diff(CGOD) ;

*C Other CGBR financing                          -AACH-AACI-ANTC  T1.2A,FS   NV0506

OCGBRF = 0 ;

*C Other external funding of the CGNCR               -AACL-AACM  T1.2A,FS   NV0506

OXFPS = 0 ;

*C Stock of other CG assets                           BKSM+BKSN  T1.1D,FS   NV0506

diff(OCGASS) = 0 ;

*C Other CG assets: CGNCR financing                   ANTD+ANSZ  T1.2A,FS   NV0506

dOCGASS = diff(OCGASS) ;

*C Gilt issuance in financing CGNCR                         ANTA  T1.2A,FS   NV0506

dGILT = CGNCR - dCOIN - diff(TBILLS) - dNATSAV - diff(TXCERT)

              - dCGOD - OCGBRF - OXFPS + dOCGASS - DRES ;

*C Redemptions of conventional gilts                 -ACOX-ACOY  T1.2C,FS   NV0506

REDGILT = 0 ;

*C Redemptions of index-linked gilts                        ----       HMT   NV0506

REDILGILT = 0 ;

*C Net cash nominal issues of linkers                       ACOV  T1.2C,FS   NV0506
```

```
dILGILT =  0.25685*(REDGILT + dGILT + REDILGILT) - REDILGILT ;

*C Stock of Index-linked gilts (nominal value)           BKPL  T1.1D,FS   NV1105

*W RPI8 = (2/3*PR(-2) + 1/3*PR(-3))/(2/3*PR(-3) + 1/3*PR(-4)) ;  {8m lag uplift}
*W RPI3 = (2/3*PR     + 1/3*PR(-1))/(2/3*PR(-1) + 1/3*PR(-2)) ;    {3m       lag
uplift}


REVIG8 = REVIG8(-1)*RPI8 + (-REDILGILT - ILGCSH)

       + 0.25*ifle(200702)*(dILGILT + REDILGILT) ;

REVIG3 = REVIG3(-1)*RPI3 + (dILGILT + REDILGILT)*(1 - 0.25)*ifle(200702) ;

REVIG  = REVIG8 + REVIG3 ;

*C Imputed GG debt from finance leases              F8YF+F8YH     -----   SK1006

FLEASGG = FLEASGG(-1) ;

*C Imputed PC debt from finance leases                  F8YJ     -----   SK1006

FLEASPC = FLEASPC(-1) ;

*C Net Public Sector Debt                               BKQK  T1.1D,FS   NV1006

diff(NPSD) = PSNCR - ILGAC + diff(FLEASGG) + diff(FLEASPC) ;

*C LA liquid assets                                 BKSO+BKQG  T1.1D,FS   NV0506

diff(LALIQ) = 0 ;

*C General Government Liquid Assets       BKQJ-BKSQ-BKSP-AIPD  T1.1D,FS   NV0506

GGLIQ = OCGASS + LALIQ ;

*C General Government Gross Debt                        BKPX  T1.1D,FS   NV1006

diff(GGGD) = CGNCR + LABRO - ILGAC + diff(SRES) + diff(GGLIQ) + diff(FLEASGG) ;
```

TABLE 2: VARIABLE DESCRIPTIONS AND SOURCES

No.	Name	Description	Unit	Source
0102	PD	Property transactions (particulars delivered)	000s	FTAQ
0103	CDUR	Consumers' expenditure on Durables, CVM	£M, CVM	UTID
0104	A2029	Numbers in Age cohort 20-29	000s	KABB
0105	C	final Consumption expenditure: HH + NPISH, CVM	£M, CVM	NPSP
0106	C£	final Consumption expenditure: HH + NPISH, cash	£M	ABJQ+HAYE
0107	CDUR£	Consumers' expenditure on Durables, cash	£M	UTIB
0201	INV	Inventory levels, end quarter	£M, CVM	=HMT
0204	DINV	Change in inventories	£M, CVM	CAFU
0205	BV	Book value of inventories, end quarter	£M	=HMT
0206	SA	Stock Appreciation (inventories)	£M	DLRA+EQCB
0208	DINVHH	HH change in inventories	£M	RPZX
0210	CS	Real financing cost of stocks	%	=HMT
0211	DINV£	Change in inventories	£M	CAEX
0212	DINVCG	CG change in inventories	£M	ANMY
0301	IBUS	Business Investment	£M, CVM	NPEL
0302	PCIH	PC's investment in dwellings	£M, CVM	DKQH
0303	VAL	Net acquisitions of valuables, CVM	£M, CVM	NPJR
0304	GGI£	General Government GFCF	£M	RNCZ+RNSM
0305	IH	Private Sector investment in housing	£M, CVM	DFEA
0306	GGI	General Government GFCF	£M, CVM	DLWF
0307	VAL£	Net acquisitions of valuables, cash	£M	NPJQ
0308	IF	Total Gross Fixed Capital Formation, CVM	£M, CVM	NPQT
0309	COC	Cost of Capital (private sector industry)	%	=HMT
0310	VALHH	Net acquisitions of valuables: HH	£M	RPZY
0311	NPAHH	HH Net acquisition of Non-Produced non-fin. Assets	£M	RPZU
0312	IF£	Total Gross Fixed Capital Formation, cash	£M	NPQS
0313	IHH£	Households GFCF	£M	RPZW
0314	ICC£	Private Non-Financial Companies GFCF	£M	ROAW
0315	GGIDEF	General Govt Investment Deflator	Index	*0315
0317	IPRL	Other private sector investment (transfer costs)	£M, CVM	DLWI
0320	FP	First year investment allowance for Plant & machinery	%	=HMRC

0321	SP	Annual investment allowance for Plant & machinery	%	=HMRC
0322	FIB	First year investment allowance for Industrial Buildings	%	=HMRC
0323	SIB	Annual investment allowance for Industrial Buildings	%	=HMRC
0324	SV	Rate of annual writing down allowance on vehicles	%	=HMRC
0326	GPW	Household sector Gross Physical Wealth	£Bn	CGRP
0327	IFC£	Investment by Financial Companies	£M	RPYQ
0401	EPS	Private Sector employment (inc. PCs)	000s	*0401
0402	ETLFS	LFS employment (inc. self -employed)	000s	MGRZ
0404	ET	UK employed labour force (WFJ)	000s	*0404
0405	ULFS	LFS Unemployment (ILO)	000s	MGSC
0406	U	Claimant count unemployment	000s	BCJD
0407	UNUKP	Claimant count unemployment rate	%	BCJE
0408	IVB	Invalidity/Incapacity Benefit recipients	000s	KJHB+KXDT
0409	ED	F/T home students: further & higher education	000s	=HMT
0410	ES	Employers and self employed (WFJ)	000s	DYZN(Q)
0411	EOIL	Offshore oil and gas employment	000s	CGZH(Q)/1000
0412	POP	Total population of working age (LFS)	000s	YBTF
0413	WRGTP	Work Related Govt Training Programmes	000s	LOJU(Q)
0414	WFJ	Workforce in employment (WFJ)	000s	DYDC(Q)
0416	LFSUR	LFS Unemployment Rate (ILO)	%	MGSX
0501	XNO	Exports of Non-Oil goods	£M, CVM	BQAN
0502	XNOX	Exports of Non-Oil goods ex. MTIC	£M, CVM	*0502
0503	XS	Exports of Services, CVM	£M, CVM	IKBE
0504	XG	Total exports of goods	£M, CVM	BQKQ
0505	X	Exports of goods and services,CVM	£M, CVM	IKBK
0506	MKTGS	UK export markets for goods & services	Index	=HMT
0507	X£	Exports of goods and services, cash	£M	IKBH
0508	XMTIC	MTIC fraud related exports, CVM	£M, CVM	*0508
0509	XMTIC£	MTIC fraud related exports, cash	£M	*0509
0510	WTGS	World Trade in non-oil Goods & Services	Index	=HMT
0512	RPRICE	Relative export prices	Index	CTPC
0601	MNOS	Imports of Non-Oil goods and Services	£M, CVM	JTEA
0602	MNOSX	Imports of Non-Oil goods and Services ex. MTIC	£M, CVM	*0602
0605	M	Imports of goods and services, CVM	£M, CVM	IKBL
0606	MMTIC	MTIC fraud related imports, CVM	£M, CVM	*0606
0607	SPECX	Trend Specialisation in world trade & ind. production	Index	=HMT

0608	MMTIC£	MTIC fraud related imports, cash	£M	*0608
0609	M£	Imports of goods and services, cash	£M	IKBI
0610	TB	Balance of Trade in goods & services	£M	IKBJ
0701	PPIY	Producer output price index ex. taxes	Index	PVNQ
0702	ADJW	Adjustment for wages & salaries	Number	=HMT
0703	PCE	Consumers' expenditure deflator	Index	*0703
0704	RPCOST	Index of Retail Price Costs	Index	=HMT
0705	RROSSI	ROSSI: RPI ex. MIPs, council tax and rents	Index	GUMF
0706	DUTRPI	Average rate of Duty on RROSSI	%	=HMT
0707	ICOST	Investment Costs: I-O decompostion	Index	=HMT
0708	PR	Retail Prices Index (RPI)	Index	CHAW (FRAG)
0709	PINV	Inventories deflator	Index	=HMT
0710	PIF	Investment deflator (total GFCF)	Index	*0710
0711	RPTAX	Average tax rate on RROSSI	%	=HMT
0712	PRMIP	MIPs index in the RPI	Index	DOBQ
0713	PRXMIP	RPI excluding MIPs	Index	CHMK
0714	PXNO	AVI for exports of Non-Oil goods	Index	*0714
0715	ULCPS	Private Sector Unit Labour Costs	Index	=HMT
0716	PRENT	Rent component of the RPI	Index	DOBP
0717	PXS	AVI for exports of Services	Index	*0717
0718	PMNOS	AVI: imports of non-oil goods & services	Index	*0718
0719	PMNOSX	AVI: imports of non-oil goods & services ex. MTIC	Index	*0719
0721	CPI	Consumer Prices Index, 1996=100	Index	D7BT
0724	PSAVEI	Private Sector Average Earnings Index	Index	LNKY
0725	ERCG	CG average earnings index, 2000=100	Index	NMAI/C9K9(Q)
0726	ERLA	LA average earnings index, 2000=100	Index	NMJF/C9KA(Q)
0727	PCT	Rates/Community Charge RPI	Index	DOBR
0731	HRRPW	LA gross rent per house per week (£)	£	=DCLG
0733	WPG	World price of goods	Index	=HMT
0734	WPBM	World Price of Basic Materials ($)	Index	=HMT
0735	M14CP	Major 14 consumer prices	Index	=HMT
0736	APH	Average House Price index	Index	=DCLG
0737	RHF	Real interest rate on Housing Finance	%	=HMT
0738	OWC	Owner occupancy rate	%	=DCLG
0739	UDEN	Union density (constant from 1980q4)	%	=HMT
0741	TAX	Tax component of RPCOST	Index	=HMT

0742	HD	Housing Depreciation index in RPI	Index	CHOO
0801	TDOIL	Total domestic Demand for Oil	£M, CVM	*0801
0802	NSGVA	GVA in North Sea oil & gas extraction	£M, CVM	UJAD
0803	XOIL	Exports of Oil, CVM	£M, CVM	BOXX
0804	PXOIL	AVI for exports of Oil	Index	*0804
0805	MOIL	Imports of crude Oil and oil products	£M, CVM	BPIX
0806	PMOIL	AVI for imports of oil	Index	*0806
0807	NSGTP	North Sea Gross Trading Profits: PNFCs	£M	CAGD
0809	PBRENT	Brent crude oil Price ($ per barrel)	$	=IMF
0901	CGWS	CG compensation of employees	£M	QWPS
0902	PCOTC	Payable Company Tax Credits	£M	MDXH
0903	CGP	CG Procurement expenditure	£M	QWPT
0904	LASUBP	LA Subsidies on Products	£M	ADAK-LIUC
0905	NPACG	CG Net acquisition of Non-Produced non-fin. Assets	£M	NMFG
0906	CGI£	Total Central Government GFCF	£M	NMES
0907	CGTSUB	CG Total subsidies	£M	NMCD
0908	CGSB	CG net Social Benefits to households	£M	GZSJ
0909	UPRAT	Uprating for non-cyclical social security benefits	Index	=HMT
0910	DIPNSC	Debt Interest Payments on Natl Savings	£M	XACX
0911	DIPLDC	Debt Interest Paid on conventional gilts	£M	CUEM-CMSU
0912	DICGOP	Total CG debt interest payments	£M	NMFX
0913	IILG	Debt interest on index-linked gilts	£M	CMSU
0914	AEG	Aggregate External Grant: CG to LA (inc. NNDR grant)	£M	=HMT
0915	LALEND	LA net lending to personal sector	£M	ADDU
0916	KLA	LA capital grants	£M	NMNL
0917	CGCGLA	Total CG grants to LAs'	£M	QYJR
0918	LASBHH	LA Social Benefits to Households	£M	GZSK
0919	KCGLA	Capital grants: CG to LA	£M	NMGR+NMGT
0920	LAMISE	LA Miscellaneous Expenditure	£M	LSIB
0921	ECNET	Net EC contributions (BoP basis)	£M	-FKKL-FKIJ
0922	TROD	Government non-EC transfer debits	£M	*0922
0923	UPLIFT	Uprating factor for cyclical social security benefits	Index	=HMT
0924	RCGIM	CG non-trading capital consumption	£M	NSRN
0925	NOPENS	Number of pensioners (inc. widows)	000s	BDAE
0926	KCGPSO	Capital grants: CG to Private Sector and RoW	£M	ANNI
0927	ECG	CG non-trading employment (WFJ)	000s	CULX(Q)

0928	LAWS	LA compensation of employees	£M	QWRY
0929	LAPR	LA expenditure on Procurement	£M	QWRZ-NMKK
0930	LAI£	Investment by Local Authorities	£M	NMOA
0931	DILAPR	LA interest/dividends paid to private sector & RoW	£M	NUGW
0932	PCLEB	PCs investment in Land and Existing Buildings	£M, CVM	DLWH
0933	NPALA	LA Net acquisition of Non-Produced non-fin. Assets	£M	NMOD
0934	ELA	LA non-trading employment (WFJ)	000s	CUAN(Q)
0935	CGSUBP	CG Subsidies on Products	£M	NMCB
0936	CGSUBPR	CG Subsidies on Production	£M	NMCC
0937	LASUBPR	LA Subsidies on Production	£M	LIUC
0938	CGOTR	CG Other current grants	£M	NMFC
0939	KID	No. of children receiving child benefit (GB)	000s	BDAH
0940	RLAIM	LA non-trading capital consumption	£M	NSRO
0941	LATSUB	LA Total subsidies	£M	ADAK
0942	CGMISP	CG Miscellaneous Payments	£M	ANRS-ABIF
0943	DICGPC	CG debt interest payments to PCs	£M	*0943
0944	DILACG	LA debt interest payments to CG	£M	GVHA
0945	DIPCCG	PC debt interest payments to CG	£M	GVHC-ZYHY
0946	SLCGLA	Stock of LA debt held by CG	£M	*0946
0947	DIPCLA	PC debt interest payments to LAs	£M	GVHD-ZYHZ
0948	DICGLA	CG debt interest payments to LAs	£M	NUHC
0949	LASC	LA Social contributions	£M	GCMN
0950	NPRIVP	Net Privatisation Proceeds	£M	-ABIF
0951	LCGOS	CG net lending overseas	£M	HEUC
0952	LCGPR	CG net lending to the Private Sector	£M	ANRH-HEUC
0953	ILGCSH	Index-Linked Gilts Cash uplift	£M	NMRB-NMQZ
0954	RLCOTC	Reduced Liability Company Tax Credits	£M	JPPT-MDXH
0955	WFTCNT	WFTC scoring as Negative Tax	£M	LIBJ-MDYM
0956	KPSCG	Capital grants: Private Sector to CG	£M	ANNN
0957	REDOTH	Interest on gilts redeemed & other flows	£M	=HMT
0958	LAOTRHH	LA Other Transfers to HH	£M	EBFE
0959	LANNDR	LA payments of NNDR	£M	CQOQ
0961	DILAPC	LA debt interest payments to PCs	£M	CPBA
0962	ILGUP	Accrued uplift on index linked gilts	£M	NMRB
0963	CSS	Cyclical Social Security	£M	ABBV
0964	GNLDF	Lottery financed expenditure	£M	CJSW

0965	LANDRAA	LA NNDR Accruals Adjustment	£M	CULD-CCXN
0967	WFTCPE	WFTC scoring as Public Expenditure	£M	LIBJ
0968	ASSETSA	Fixed asset sales by Public Sector	£M	=HMT
0969	EUVAT	VAT payments to the EU	£M	HCML+FSVL
0970	OSGG	Gross Operating Surplus: GG	£M	NMXV
0971	EESCLA	Employee contributions to LA pension schemes	£M	NMWM
0972	CONACC	Accruals adj. on conventional gilts	£M	-GCSW-GCMR
0973	TME	Total Managed Expenditure	£M	*0973
0974	CGASC	CG Actual Social Contributions	£M	GCMP
0976	CGNCGA	CG Net Current Grants Abroad	£M	GZSI
0977	CGSTOCK	CG net capital Stock, all fixed assets	£Bn	CIXK
0978	LASTOCK	LA net capital Stock, all fixed assets	£Bn	CIXL
0985	DITHER	Other CG debt interest	£M	=HMT
0986	LANCGA	LA Net Current Grants Abroad	£M	C626
1001	TSD	Stamp Duty receipts	£M	ACCI
1002	TYEM	Taxes on income from employment	£M	DBBO
1003	CCLACA	Climate change & aggregates levy accruals adjustment	£M	*1003
1004	VREC	VAT Receipts	£M	EYOO
1005	EXDUTAC	Excise Duty Accruals adjustments	£M	RUSD
1006	TXALC	Alcohol duties: spirits, beer, wine and cider	£M	ACDF/G/H/I
1007	SIBICC	Total allowances on PNFCs investment in Buildings	£M	=HMT
1008	EENIC	Employees' payments of NICs	£M	AIIH-CEAN
1009	EMPNIC	Employers' payments of NICs	£M	CEAN
1010	LL	Lower Earnings Limit for NICs (£, Q)	£	=HMT
1011	UL	Upper Earnings Limit for NICs (£, Q)	£	=HMT
1012	TCACT	Advance Corporation Tax receipts	£M	ACCN
1013	NSCTP	North Sea Corporation Tax Payments	£M	DBJY
1014	TXFUEL	Hydrocarbon oils duty receipts	£M	ACDD
1015	NNSCTP	Non-North Sea Corporation Tax Payments	£M	*1015
1016	CAPAL	Capital Allowances due (all companies)	£M	=HMT
1017	PRT	Petroleum Revenue Tax inc. advance PRT	£M	ACCJ
1018	NSROY	North Sea Royalties accruals	£M	ACEC
1019	OHT	Other Household Taxes on income	£M	*1019
1020	DIRCG	Debt Interest Receipts of CG	£M	*1020
1021	DIRLA	Debt Interest Receipts of LA	£M	*1021
1022	TXTOB	Tobacco duty	£M	ACDE

1023	OPT	Other Production Taxes	£M	NMBX-CUKY
1024	TXMIS	Misc. expenditure taxes	£M	*1024
1025	TSEOP	Taxes on Self-Employment & Other Personal Income	£M	ZAFG
1026	TCINV	Other company taxes on investment	£M	GRXE
1027	INHT	Inheritance Tax	£M	NMGI
1028	TXKCO	CG receipts of capital taxes on companies	£M	DKGZ
1029	CC	Community Charge (Council Tax)	£M	NMIS
1030	NNDRA	National Non-Domestic Rates Accruals	£M	CUKY
1031	XLAVAT	VAT refunds (except to LA)	£M	CUNW
1032	LAVAT	VAT refunds to LAs	£M	CUCZ
1033	CGISC	CG Imputed Social Contributions	£M	*1033
1034	KGLA	LA capital receipts from UK co. & EU	£M	ANNO
1035	DVPSCG	Dividends from Private Sector to CG	£M	ZYIA
1036	NICAC	National Insurance Accruals Adjustment	£M	ACJY
1037	HEENIR	Employee NICs higher rate	%	=HMT
1038	INCTAC	Income Tax Accruals Adjustment	£M	*1038
1039	ILGAC	Accruals adjustment on index linked gilts	£M	-NMQZ
1040	RNCG	CG total rent receipts (ex. capital consumption)	£M	*1040
1041	LAAC	LA accruals adjustment (NSA)	£M	-ANML
1042	LRB	Lower Rate Band width (£, Q rate)	£	=HMT
1043	BRB	Basic Rate Band width (£, Q rate)	£	=HMT
1044	EESCCG	CG employee social contributions	£M	GITB+GVFJ
1045	TPMCA	Married Couples Allowance (£, Q rate)	£	=HMT
1046	TPSNA	Single persons allowance (£, Q rate)	£	=HMT
1047	TPLR	Lower rate of income tax (ratio)	%	=HMT
1048	TPAG	Age allowance (avg. single & married)	£	=HMT
1049	TPBRZ	Basic rate of income tax	%	=HMT
1050	NSACT	North Sea Advanced Corporation Tax	£M	=HMT
1051	NHNPTC	Non-household NPISH tax credits	£M	*1051
1052	MFTRAN	CG Misc. Financial Transactions	£M	-ANRV
1053	TCPRO	Corporation tax rate	%	=HMT
1054	WTCCTC	Working and Children's Tax Credit	£M	MDYN
1055	CCACC	Community Charge Accruals adjustment	£M	-CDXW-ADDC
1056	EENIR	Class 1 Employee NIC rate (weighted average)	%	=HMT
1057	EMPNIR	Class 1 Employer NIC rate (weighted average)	%	=HMT
1058	TVAT	VAT rate	%	=HMT

1059	VATFAC1	VAT-able durables consumption	%	=HMRC
1060	VATFAC2	VAT-able non-durables consumption	%	=HMRC
1061	TMIRAS	MIRAS tax rate	%	=HMT
1062	TPHR	Higher rate of income tax	%	=HMT
1063	CGNDRAA	NNDR end year adjustment	£M	LNFP+CULD
1064	NNDACC	NNDR accruals adjustments	£M	*1064
1065	WINDT	Windfall tax receipts	£M	EYNK
1066	CT1	Old CT regime proportion	%	=HMT
1067	CT2	New CT regime proportion	%	=HMT
1068	MILAPM	MIRAS, LAPRAS and PMI relief: receipts	£M	GCJG
1069	VTR	Vocational Training Relief: receipts	£M	-MDUF
1070	MILAPME	MIRAS, LAPRAS and PMI relief: public expenditure	£M	*1070
1071	VTRCS	VTR & other reliefs: public expenditure	£M	*1071
1072	HHTCG	Household Transfers to CG	£M	NMEZ
1073	TAXCRED	Total income tax credits	£M	=HMT
1074	INCTAXG	Income Tax Gross of tax credits	£M	LIPG
1075	CT	Corporation Tax	£M	*1075
1076	NTSSC	Net Taxes and Social Security Contributions	£M	=HMT
1077	CGC	CG IPD credits (earnings on reserves)	£M	D69U
1078	SWAPS	Swap adjustments	£M	CFZG
1079	ROCs	Renewable Obligation Certificates (tax on products)	£M	EP89
1080	EUOT	Payments of taxes on products to EU	£M	FJWE+FJWG
1081	CGT	Capital Gains Tax	£M	QYJX
1082	POISS	Profits On Issue of notes	£M	EYWM
1083	LAPT	LA receipts of Production Taxes	£M	NMYH
1084	MOBACC	Spectrum accruals adjustment	£M	-BKTC
1085	MOBREV	Spectrum accruals	£M	BKTK
1086	CTC	Children's Tax Credit	£M	-MDWZ
1087	BETPRF	Betting tax scored on income & wealth	£M	MIYF
1088	BETLEVY	Betting levies scored as taxes on income & wealth	£M	DW9E
1091	VED	Vehicle Excise Duty	£M	GTAX
1092	VEDHH	VED paid by households	£M	CDDZ
1093	VEDCO	VED paid by companies and non-HH	£M	GTAX-CDDZ
1094	BBC	Television licence tax	£M	DH7A
1095	PASSPORT	Passport fees	£M	E8A6
1096	OCT	Other Current Taxes	£M	NMCV-CQOQ

1097	DIVRCG	Total CG dividend receipts	£M	ZYIA+ZYHY
1098	NIS	Employers' Natl Insurance Surcharge	£M	GTAY
1099	SC	Supplementary Charge on North Sea profits	%	=HMT
1101	SAS	Stock of Assets	£M	*1101
1102	SL	Stock of Liabilities	£M	*1102
1103	SRES	Stock of total official Reserves	£M	LTEB
1104	BAL	Balancing item in BoP account	£M	NYPO
1105	RSL	Rate of return on Stock of Liabilities	%	=HMT
1106	RSA	Rate of return on Stock of Assets	%	=HMT
1107	CIPD	IPD credits	£M	*1107
1108	DIPD	IPD debits	£M	*1108
1109	CGCBOP	CG earnings on reserves: scoring in BoP	£M	HHCC
1110	NIPD	Net inflow of IPD	£M	HBOM
1111	WEQPR	World equity prices:G6+Spain, GDP weighted	Index	=HMT
1112	ROLT	GDP weighted 10y interest rate: G7 & Euro11	%	=HMT
1113	EECOMPD	Employees Compensation due abroad	£M	IJAI
1114	DRES	Changes to foreign currency reserves	£M	AIPA
1115	ROSHT	GDP weighted 3m interest rate: G7 & Euro11	%	=HMT
1116	ECUPO	Sterling/Euro exchange rate (Euros/£)	Rate	THAP
1117	RXE	Expected exchange rate	Rate	AGBG(+1)
1118	M14GDP	GDP in Euro11+US+Japan+Canada	£M	=HMT
1119	RX	Sterling effective exchange rate	Index	BK67
1120	RXD	Sterling - dollar cross rate	Rate	AUSS
1121	CB	Current account Balance of Payments	£M	HBOP
1122	EECOMPC	Employees Compensation from abroad	£M	IJAH
1123	EUSUBP	EU Subsidies on Products	£M	FKNG
1124	HHTFA	Household Transfer receipts from Abroad	£M	*1124
1125	HHTA	Household Transfer payments Abroad	£M	*1125
1126	EUKT	Capital transfer payments from EU	£M	GTTY
1127	MIKTFA	Migrants capital Transfers From Abroad	£M	FHJC
1128	MIKTA	Migrants capital Transfers Abroad	£M	FLWJ
1129	CGKTA	CG capital transfers abroad	£M	FLWB
1130	OPSKTA	Other Private Sector capital Transfers Abroad	£M	FLWI-FLWJ
1131	EUSF	Receipts from EU Social Fund	£M	H5U3
1132	NPAA	Net acquisition of Non-Produced non-fin. Assets (land)	£M	FHJL-FLWT
1133	GNP4	UK fourth resource contribution to EU	£M	HCSO+HCSM

1134	BENAB	Social security benefits paid abroad	£M	FLUK
1135	CGITFA	CG tax receipts from abroad	£M	CGDN
1136	ITA	Tax payments abroad	£M	FLVE
1137	EUSUBPR	EU Subsidies on Production	£M	FHLK (ZJZD)
1138	TRANC	Transfer Credits	£M	IKBN
1139	TRAND	Transfer Debits	£M	IKBO
1140	TRANB	Transfers Balance	£M	IKBP
1141	INSURE	Non-life insurance premiums & claims	£M	NHRX+FLYE
1142	CB%	Current account Balance of Payments, % GDP	%	AA6H
1143	NAFROW	Net lending by Rest of the World	£M	RQCH
1201	KPSPC	PC capital transfers from the Private Sector	£M	ADSE
1202	IPC£	Investment by Public Corporations	£M	ANNQ
1203	IBPC	PC increase in stocks	£M	DHHL
1204	OSPC	Gross Operating Surplus: PC	£M	NRJT
1205	MFTPC	PC Misc. Financial Transactions	£M	ANVU
1206	DIPRPC	PC interest receipts from Private Sector	£M	GVHG
1207	KGLAPC	Capital grants: LA to PC	£M	ADCF
1208	DVPCLA	PC dividend payments to LA	£M	ZYHZ
1209	KCGPC	Capital grants: CG to PC	£M	*1209
1211	DIRPC	Debt Interest Receipts of PC	£M	GVHH
1212	DIPCOP	PC debt interest payments to RoW & Priv. Sector	£M	GZSO
1213	DVPCCG	PC dividend payments to CG	£M	ZYHY
1214	PUBSTPD	Public Sector taxes: Production & imports	£M	NMYE
1215	TYPCO	PC onshore corporation tax payments	£M	FCCS
1217	PFTC	Pension Fund Tax Credits	£M	-CFGS
1218	FCACA	Financial Companies Accruals Adj.	£M	DKHH+ZYBE
1219	PCCON	Total PC capital consumption	£M	NSRM
1220	KPCPS	Capital grants: PCs to the Private Sector	£M	ZMML
1222	PCSTOCK	PC net capital Stock, all fixed assets	£M	CIXJ
1223	CGNB	CG Net Borrowing	£M	-NMFJ
1225	CGACADJ	CG Accruals adjustments	£M	*1225
1226	LANB	Local Authority Net Borrowing	£M	-NMOE
1227	TDEF	GG net borrowing: Maastrict definition	£M	-MDUK
1228	PSCR	Public Sector Current Receipts	£M	ANBT
1229	PSCE	Public Sector Current Expenditure	£M	ANLT
1230	PSCB	Public Sector Current Budget	£M	ANMU

1231	PSGI	Public Sector Gross Investment	£M	=HMT
1232	DEP	Public Sector Depreciation	£M	ANNZ
1233	PSNI	Public Sector Net Investment	£M	-ANNW
1234	PSLSFA	Public Sector Loans & Sales of Financial Assets	£M	ANSU+ANSV
1235	PSACADJ	Public Sector Accruals Adjustments	£M	*1235
1236	PSNW	Public Sector Net Wealth	£M	CGTY
1237	PUBSTIW	Public Sector taxes: Income & Wealth	£M	ANSO
1238	PSTA	Public Sector Tangible Assets	£M	CGJA
1239	PSFA	Public Sector Financial Assets	£M	NKFB+NPUP
1240	CGGILTS	Stock of CG gilts excluding linkers	£M	NIJI-V2027
1241	OFLPS	Other Public Sector Financial Liabilities	£M	*1241
1242	PSFL	Public Sector Financial Liabilities	£M	NKIF+NPVQ
1243	LARENT	LA Rent receipts & current transfers	£M	ANBX
1244	PCRENT	PC rent receipts & current transfers	£M	ANCW
1245	PCLEND	PC net lending to private sector & RoW	£M	ANRY
1246	PCMISE	PC net acquisition of UK co. securities	£M	ANRZ
1247	PCAC	PC Accounts receivable/payable	£M	ANVQ
1248	PCGILT	PC adjustment for interest on gilts	£M	NCXS
1249	LAMFT	LA Misc. Financial Transactions	£M	ANMW
1250	CGACRES	CG Accounts residual	£M	*1250
1251	MKTIG	Market value of index-linked gilts	£M	=HMT
1252	CGLSFA	CG Loans & Sales of Financial Assets	£M	ANRH+ANRS
1253	CGRENT	CG Rent & other current transfers	£M	ANBU
1254	CGNDIV	CG interest & dividends from Private sector & RoW	£M	GVHE
1255	LANDIV	LA interest & dividends from Private sector & RoW	£M	GVHF
1256	PCNDIV	PC interest & dividends from Private sector & RoW	£M	GVHG
1257	PSINTR	Public Sector interest & dividend receipts	£M	ANBQ
1258	CGINTRA	CG net interest & dividends from Public Sector	£M	ANNY
1259	LAINTRA	LA net interest & dividends from Public Sector	£M	ANPZ
1260	PCINTRA	PC net interest & dividends from Public Sector	£M	ANRW
1401	RS	UK interbank rate: 3m LIBOR	£M	AMIJ
1402	RL	UK twenty year gilt yield	%	AJLX
1403	RDEP	Building Society deposit rate	%	AJNV
1404	RNS	Rate of return on National Savings	%	XACX/ACUA
1405	RMORT	Building Soc. mortgage rate (repayment)	%	AJNL
1406	EQPR	Equity price index, (FT all-share)	Index	HSEL

1407	RILG	Real interest rate on Index-Linked Gilts	%	=HMT
1408	M0	Notes & coins in circulation outside BoE	£M	AVAB
1409	NFWPE	Household sector Net Financial Wealth	£M	NZEA
1410	M4	M4 (end period), (FYSA)	£M	AUYN
1411	GFWPE	Household sector Gross Financial Wealth	£M	NNML
1412	LHP	HH loans secured on dwellings	£M	NNRP
1413	OLPE	HH other financial liabilities	£M	NNPP-NNRP
1415	LIQIC	PNFCs' stock of gross liquid assets	£M	AIEL
1416	BBIC	Bank lending to PNFCs (all currencies)	£M	NLBF+NLBG
1417	UNIDPE	HH stat. adjustment on financial account	£M	NZDV
1501	WFP	UK wages & salaries (inc. HM forces)	£M	DTWM-ROYK
1502	MI	Mixed Income	£M	RNKX
1503	FYEMP	Total compensation of employees	£M	DTWM
1504	EMPSC	Employers' Social Contributions	£M	ROYK
1505	SVHH	Households' (& NPISH) gross saving	£M	RPQL
1506	NAFHH	Net Acquisition of Fin. Assets: HH	£M	RPZT
1507	HHDI	HH (& NPISH) gross Disposable Income	£M	RPHQ
1508	RHHDI	Real HH (& NPISH) Disposable Income	£M, CVM	NRJR
1509	NAFCO	Net Acquisition of Financial Assets: Co's	£M	RPYN+RQBV
1510	GTPIC	Gross Trading Profits: PNFCs' (inc. NS)	£M	CAGD+CAED
1511	NAFFC	Net Acquisition of Fin. Assets: FINCOs	£M	RPYN
1512	NAFIC	Net Acquisition of Fin. Assets: PNFCs	£M	RQBV
1513	EMPCPP	Employers' contributions to funded pension schemes	£M	RNNG
1514	NDIVHH	HH & NPISH dividend receipts	£M	NRKU
1515	STIPIC	Short-Term Interest Payments: PNFCs	£M	=HMT
1516	WYQC	Withdrawal of income from Quasi-Corporations	£M	NBOJ
1517	DIRHH	Debt Interest Receipts of HH	£M	ROYM
1518	DIPHH	Debt Interest Payments of HH	£M	ROYU
1519	KGHH	Households net capital transfers	£M	*1519
1520	NEAHH	Adj. for change in net equity of HH pension funds	£M	RPQJ
1521	SAVCO	Saving of Companies: PNFCs + FINCOs	£M	RPKZ+RPPS
1522	NMTRHH	Net Misc. Transfer Receipts of HH	£M	RPHO-RPID
1523	EMPISC	Employers' Imputed Social Contributions	£M	NQDK
1524	APIIH	Attributed Property Income of Ins. Policy Holders	£M	ROYP
1525	EESC	Employee Social Contributions	£M	RPHX+RPHY
1526	SBHH	Household Social Benefits	£M	RPHL

1527	TYWHH	HH current taxes on income and wealth	£M	RPHS+RPHT
1528	PIRHH	Property Income Receipts of HH	£M	ROYL
1529	PIPHH	Property Income Payments of HH	£M	ROYT
1530	OSB	HH private funded social benefits (pensions)	£M	RNLL
1531	NPISHTC	NPISH tax credits	£M	-CFGW
1532	HHSB	Household Social Benefits	£M	RPIA
1533	HHISC	Household imputed Social Contributions	£M	RVFH
1534	EECPP	Employees pension contributions	£M	RNNN
1540	SY	Households' saving ratio	%	NRJS
1601	BPA	Basic Price Adjustment, CVM	£M, CVM	NTAO
1602	TFE	Total Final Expenditure, CVM	£M, CVM	ABMG
1603	GDPM	GDP at market prices, CVM	£M, CVM	ABMI
1604	GVA	GVA at basic prices, CVM	£M, CVM	ABMM
1605	GVA£	GVA at basic prices, cash	£M	ABML
1606	PGVA	Gross Value Added deflator	Index	CGBV
1607	GDPM£	GDP at market prices, cash	£M	YBHA
1608	TFE£	Total Final Expenditure, cash	£M	ABMF
1609	BPA£	Basic Price Adjustment, cash	£M	YBHA-ABML
1610	PGDP	GDP at market prices deflator	Index	YBGB
1611	NNSGVA	Non-North sea GVA, CVM	£M, CVM	UIZY
1612	MANGVA	Manufacturing GVA	£M, CVM	CKYY
1613	TPROD£	Taxes less subsidies on Production, cash	£M	CMVL-NTAP
1614	GDPI	GDP Income measure at market prices	£M	YBHA
1615	CBIBC	CBI spare capacity indicator	Index	DKCE
1617	OSHH	Gross Operating Surplus: HH	£M	CAEN
1618	FYCPR	Gross trading profits of all companies	£M, CVM	*1618
1619	SDE	Statistical discrepancy: GDP (E)	£M, CVM	GIXS
1620	OS	Gross Operating Surplus	£M, CVM	ABNG
1621	TPROD	Taxes less subsidies on Production, CVM	£M, CVM	NTAI
1622	MGDPNSA	GDP at market prices (NSA)	£M	BKTL
1623	CGG	General Government final consumption, CVM	£M, CVM	NMRY
1624	CGG£	General Government final consumption, cash	£M	NMRP
1625	RENTCO	Private Sector companies rental income	£M	DTWS+FCBW
1626	SDE£	Statistical discrepancy: GDP (E)	£M	GIXM
1627	SDI	Statistical discrepancy: GDP (I)	£M	GIXQ
1629	GGFCD	GG Final Consumption Deflator	Index	*1629

1630	NOPROD	Non-Oil Productivity	Index	=HMT
1631	BCCCU	British Chambers of Commerce Capacity Utilisation	Index	=BCC
1632	GNI£	Gross National Income	£M	ABMZ
1633	GFC	Gross domestic product at Factor Cost	£M, CVM	YBHH
1634	TFEX	Total Final Expenditure ex. MTIC, CVM	£M, CVM	=HMT
1635	TFEX£	Total Final Expenditure ex. MTIC, cash	£M	=HMT
2001	LABRO	LA market borrowing net CG/PC debt	£M	AAZK
2002	LCGLA	Net lending by CG to LAs (NSA)	£M	ABEC
2003	SLAB	Stock of LA market borrowing(NSA)	£M	*2003
2004	SLAM	Stock of LA monetary assets (NSA)	£M	ADNA-ADNJ
2005	SLAPO	Private Sector debt held by LAs (NSA)	£M	*2005
2006	LCGPC	Net lending by CG to PCs (NSA)	£M	ABEI
2007	SPCBCG	Stock of PC debt held by CG	£M	AKSG
2008	SLCGPR	Stock of CG net lending to Private Sector	£M	*2008
2009	PCNB	Public Corporations Net Borrowing (NSA)	£M	-CPCM
2010	PCBRO	PC market borrowing net CG/PC debt	£M	AAZL
2011	COIN	Notes and coins, end quarter	£M	NIIK
2012	FLOATER	Stock of floating rate gilts	£M	=HMT
2013	CGNCR	CG Net Cash Requirement (NSA)	£M	RUUW
2014	PSNCR	Public Sector Net Cash Requirement (FYSA)	£M	RURQ
2015	CGOD	CG loans from monetary & financial institutions	£M	ANTB
2016	TXCERT	Tax certificates	£M	ACRV
2017	OXFPS	Other external funding of the PSBR	£M	-AACL-AACM
2018	REDGILT	Redemptions of conventional gilts	£M	-ACOX-ACOY
2019	OCGBRF	Other CGBR financing	£M	*2019
2020	IDBILL	Issue Dept holdings of Commercial Bills	£M	=HMT
2021	dILGILT	Net cash nominal issues of linkers	£M	ACOV
2022	NATSAV	Stock of National Savings	£M	ACUA
2023	dGILT	Total net purchases of gilts (all sectors)	£M	ANTA
2024	OCGASS	Other CG Assets	£M	BKSM+BKSN
2025	TBILLS	Stock of Treasury Bills	£M	NIIV
2026	PSNBNSA	Public Sector Net Borrowing (NSA)	£M	-ANNX
2027	REVIG	Stock of linkers (inc. revaluations)	£M	BKPL
2028	GGNB	General Government Net Borrowing	£M	-NNBK
2029	NPSD	Net Public Sector Debt	£M	BKQK
2030	PSNBCY	Public Sector Net Borrowing (CYSA)	£M	-RQBN-RPZD

2031	GGLIQ	General Government Liquid Assets	£M	*2031
2032	GGGD	General Government Gross Debt	£M	BKPX
2033	LALIQ	LA Liquid Assets	£M	BKSO+BKQG
2034	dNATSAV	CGNCR financing: Natl Savings	£M	-AACE
2035	dOCGASS	CGNCR financing: Other CG assets	£M	ANTD+ANSZ
2036	dCOIN	CGNCR financing: Coin	£M	-EYMW
2037	REVIG3	Stock of 3m linkers (inc. revaluations)	£M	=HMT
2038	REVIG8	Stock of 8m linkers (inc. revaluations)	£M	=HMT
2039	FLEASGG	Imputed GG debt from finance leases	£M	F8YF+F8YH
2040	FLEASPC	Imputed PC debt from finance leases	£M	F8YJ
2041	dCGOD	CGNCR financing: CG loans from MFIs	£M	ANTB
2042	REDILGILT	Redemptions of index-linked gilts	£M	=HMT
6001	CETAX	Customs & Excise Taxes	£M	ACAC
6002	TXCUS	Misc. Customs and Excise taxes	£M	*6002
6003	AL	Aggregates Levy	£M	MDUP
6004	CCL	Climate Change Levy	£M	LSNS
6005	OFGEM	Tax levied by OFGEM	£M	E02E
6006	SENIR	Self-Employed class 4 NIC Rate	%	=HMT
6007	RFP	Rail franchise premia	%	LITT

NOTES ON VARIABLE DESCRIPTIONS AND SOURCES

Where a variable name ends in £ e.g. C£ this indicates that the variable is a measure in current prices i.e. cash, alternatively if a variable name does not end in £ it may be a volume measure. The UK National Accounts are chain-linked and hence constant price measures are Chain-Volume-Measures (CVM). Abbreviations used in variable descriptions and sources include the following:

HH	Households	GG	General Government (CG+LA)
NPISH	Non-Profit Institutions Serving HH	CG	Central Government
PNFC	Private Non-Financial Corporations	LA	Local Authorities
FINCOs	Financial Corporations	PC	Public Corporations
GDP	Gross Domestic Product	NNDR	National Non-Domestic Rates
GVA	Gross Value Added	HMT	Her Majesty's Treasury
GFCF	Gross Fixed Capital Formation	IR	Inland Revenue
IPD	Interest, Profits and Dividends	C&E	Customs and Excise
RPI	Retail Prices Index	ONS	Office for National Statistics
MIPs	Mortgage Interest Payments	BoE	Bank of England
UVI	Unit Value Index	LFS	Labour Force Survey
CT	Corporation Tax	BCC	British Chambers of Commerce
ACT	Advanced Corporation Tax	CBI	Confederation of British Industry
VAT	Value-Added Tax	EU	European Union
WFTC	Working Families Tax Credit	CAP	Common Agricultural Policy
NIC	National Insurance Contributions	LFS	Labour Force Survey
MIRAS	Mortgage Interest Relief At Source	NSA	Non Seasonally Adjusted
VED	Vehicle Excise Duty	CYSA	Calendar Year Seasonally Adjusted
PRT	Petroleum Revenue Tax	FYSA	Financial Year Seasonally Adjusted

ONS IDENTIFIERS

The workforce jobs data compiled by the ONS are drawn from a survey in March, June, September and December, hence the figure published for Q1 strictly refers to March only. These data can be interpolated to provide better quarterly estimates so that Q2 for example is calculated as 2/3 the published figure for Q2 (June) plus 1/3 the published figure for Q1 (March). Where data have been transformed in this way it is indicated by the letter Q in parenthesis e.g. DYDC (Q). Where data are multiplied by a constant, for example to produce an index, the letter K is used to indicate the use of any constant with further detail provided in the variable listing. If a second identifier is listed in brackets this indicates an alternative source for the data that typically covers earlier time periods.

No.	Name	Source
719	PMNOSX	((IKBI-ENXO)- (IKBI-IKBC-BQHQ*1000))/(JTEA-(IKBL-IKBF-BQHS*1000))
1250	CGACRES	ANRT-(RUSD+ACJY+(CYNX+RUTC+DKHE+DBKE)+(LNFP+CULD)-BKTC+(DKHH+ZYBE))
401	EPS	DYDC(Q)-LOJU(Q)-CGZH(Q)/1000-CULX(Q)-CUAN(Q)
404	ET	DYDC(Q)-LOJU(Q)
1019	OHT	NSNP+NSFA+CQTC
1020	DIRCG	GVHA+GVHC+GVHE-ZYHY-ZYIA

1024	TXMIS	CIQY+GTAZ+CUAG+CUDF+LIYH+EBDB+LITN+DFT3+EG9G+GCSP
1064	NNDACC	CUKY+CQOQ+CQTC-CEIP-LNFO
1101	SAS	HBQA-HCFQ-NLDA-HFBB-LTEB
1107	CIPD	HBOK-(CGGT-HCAT)-HCEH-HHCC
2003	SLAB	ADKA-ADKE-ADKF+ADHA-ADHC
6002	TXCUS	ACAC-EYOO-ACDD-ACDE-ACDF-ACDG-ACDH-ACDI-ADET-LSNS-MDUP
509	XMTIC£	IKBH-IKBB-(BQHP*1000)
606	MMTIC	IKBL-IKBF-(BQHS*1000)
608	MMTIC£	IKBI-IKBC-(BQHQ*1000)
508	XMTIC	BQKQ-(BQHR*1000)
1108	DIPD	HBOL-HCEH-(CGGT-HCAT)
315	GGIDEF	100*(RNCZ+RNSM)/DLWF
703	PCE	100*(ABJQ+HAYE)/NPSP
714	PXNO	100*(BOKG-ELBL)/BQAN
718	PMNOS	100*(IKBI-ENXO)/JTEA
922	TROD	FJUO-FJCK-HCSO-HCSM
1015	NNSCTP	ACCD-ACCN-DBBD-DKGZ
1021	DIRLA	NUHC+GVHD+GVHF-ZYHZ
1102	SL	HBQB-HFBB-HCFQ-NLDA
1241	OFLPS	NKIF+NPVQ-NIJI-ACUR
1519	KGHH	RPVO+RPVP-RPVS-RVPT
2008	SLCGPR	RCPH+RDZU+READ+RMAT
2031	GGLIQ	BKQJ-BKSQ+BKSP-AIPD
1038	INCTAC	CYNX+RUTC+DKHE+DBKE
1125	HHTA	CGDS-FLVY-FHLS-FLVE
2019	OCGBRF	-AACH-AACI-ANTC
710	PIF	100*(NPQS/NPQT)
717	PXS	100*(IKBB/IKBE)
804	PXOIL	100*(ELBL/BOXX)
806	PMOIL	100*(ENXO/BPIX)
1051	NHNPTC	CFGW-MDYW-MDYU
1209	KCGPC	-ANND-NMGR-NMGT
1235	PSACADJ	ANSW+ANSX+ANSY
1629	GGFCD	100*(NMRP/NMRY)
801	TDOIL	UJAD+BPIX-BOXX
943	DICGPC	GVHH-CPBA-GVHG

946	SLCGLA	ADHC+ADKF+ADKE
973	TME	ANLT+ANNZ-ANNW
1003	CCLACA	LNSU+MDUR+CJRY
1033	CGISC	GCSG+GCSH+RUDY
1040	RNCG	NMCK-ACEC-BKTK
1070	MILAPME	DCHG+DCHF+GCJJ
1071	VTRCS	IQKI+BKSG+BKSH
1075	CT	ACCD-MDXH+JPPT
1124	HHTFA	CGDO-NHRX-FLYE
1225	CGACADJ	ANRT+ANRU+ANRV
1618	FYCPR	CAGD+CAED+RITQ
2005	SLAPO	ADNJ+APEN+RDLA

GROUP ONE: CONSUMPTION

The consumption sector of the model includes only one major behavioural equation - for household sector consumption at constant prices, C. The theory underlying the equation is within the spirit of the permanent income/life cycle model, with income and wealth being the major driving variables. There is also an equation for household sector consumption of durables at constant prices, CDUR, which is used as a tax determinant, that is specified as a share of aggregate consumption.

No.	Name	Description	Unit	Source	Identifier
0102	**PD**	**Property transactions**	**000s**	**ONS**	**FTAQ**

Model equation: Behavioural Equation

Ln PD = - 7.409 + 0.715 gLn PD + 0.264 gLn RHHDI - 0.276 g Ln (APH/PCE)
(2.5)[4.0] (-) (2.2)[3.0] (3.3)[4.1]

- 0.00237 g [RMORT - 400 (1 - g) Ln APH] - 0.0108 g (RS - RMORT)
(-) (2.2)[3.2]

+ 0.665 g LnA2029 - 0.124 D7423 + 0.261 D8834
(1.9)[3.5] (3.3)[15] (4.8)[24]

T-statistics in square brackets were calculated using Newey-West standard errors.

Estimation period: 1971Q1 to 1991Q3

R^2 = 0.429	Normality CHI^2 = 1.1
SE = 0.0506	Hetero F(1,81) = 0.9
LM F(4,68) = 0.1	Forecast F(8,64) = 1.1
ARCH F(4,68) = 1.7	- over 1989Q4 – 1991Q3

Summary of Equation Properties

Static long-run solution:

Ln PD = - 25.996 + 0.9263 Ln RHHDI - 0.9684 Ln (APH/PCE)

- 0.00832 (RMORT - 400 (1 - g) Ln APH) - 0.0379 (RS - RMORT) + 2.33 LnA2029

Effect on PD of a 1% increase in:

	Q1	Q5	Q9	Long-run
Real Personal Disposable Income (Ln RPDI)	0.000	0.684	0.863	0.926
Real House Prices [Ln (APH/PCE)]	0.000	-0.715	-0.902	-0.968
Housing Costs (RMORT - 400g (1 - g) APH)	0.000	-0.006	-0.008	-0.008
No of people aged 20 - 29 (Ln A2029)	0.000	1.724	2.174	2.333

Comment

The equation for particulars delivered (housing turnover) is based on the assumption that turnover is negatively related to the difference between actual and expected house prices.

Expected house prices are assumed to be determined by the user cost of housing, consumer prices and real disposable income. The equation also contains a demographic term, the number of people aged 20 - 29. This has two possible interpretations: either it enters the relation for expected house prices; or it simply represents the greater mobility of individuals in the age cohort (which need not necessarily affect expected house prices).

The effects of financial liberalisation on turnover were modelled by the introduction of the spread between the three month interbank rate and the mortgage rate (interbank rates in excess of the mortgage rate indicate excess demand) and by allowing the coefficients in the equation to change discretely. The only coefficient subject to discrete change in the Model equation was that on the user cost of housing. In fact before 1980 we failed to identify any effect from the user cost term.

Further Documentation: MRG (93) 3

No.	Name	Description	Unit	Source	Identifier
0103	CDUR	Consumers' expenditure on Durables	£M, CVM	ONS	UTID

Model equation: Behavioural Equation

$$\begin{aligned} CDUR = {} & C\,[-0.193 + 0.61832\ g\ (CDUR/C) + 0.015483\ g\ Ln\ RHHDI + 0.008932\ g\ Ln\ PD \\ & \quad (-) \qquad (9.1) \qquad\qquad (4.4) \qquad\qquad (3.3) \\ & + 0.049124\ (1 - g^2)\ Ln\ RHHDI + 0.007\ D7312 + 0.004\ D7834 + 0.016\ D7923] \\ & \quad (4.1) \qquad\qquad (4.1) \qquad (2.5) \qquad (8.6) \end{aligned}$$

Estimation period: 1968Q4 to 1997Q4

$R^2 = 0.960$ Normality $CHI^2_2 = 0.3$
SE = 0.002 Hetero $CHI^2_1 = 2.8$
LM F(4,92) = 1.7 ARCH F(4,68) = 1.7

Summary of Equation Properties

Static long-run solution:

CDUR = C * [0.0406 Ln RHHDI + 0.0234 Ln PD]

Effect on (CDUR/C) of a 1% increase in:

	Q1	Q5	Q9	Q13	Long-run
Real household income (Ln RHHDI)	0.0500	0.0530	0.0420	0.0406	0.0406
Particulars Delivered (Ln PD)	0.0000	0.0190	0.0230	0.0230	0.0234

No.	Name	Description	Unit	Source	Identifier
0104	A2029	Numbers in Age cohort 20-29	000s	ONS	KABB

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0105	C	Household + NPISH expenditure	£M, CVM	ONS	NPSP

Model equation: Behavioural Equation

$$\begin{aligned}\text{Ln C} = {} & g \text{ Ln C} - \underset{(3.4)}{0.129\, g \text{ Ln } (C/RLY)} + \underset{(1.9)}{0.0051\, g \text{ Ln } (100\, NFWPE/(PCE\, RLY))} \\ & + \underset{(4.2)\ (1.7)\ (3.0)}{(0.19 + 0.089g - 0.138g^2)}\ (1 - g) \text{ Ln RHHDI} + \underset{(1.6)}{0.013403} - \underset{(1.5)}{0.101\, g\, (1-g) \text{ Ln C}} \\ & + \underset{(4.0)}{0.142\ (1 - g) \text{ Ln } (GPW/PCE)} - \underset{(2.7)}{0.0084\ (1-g) \text{ UNUKP}} - \underset{(1.2)}{0.0007(1-g)\ RS} \\ & + \underset{(7.2)}{0.040 \text{ DD792}} - \underset{(2.1)}{0.22\, g\, (1 - g)\ (MORT/HHDI)} + \underset{(2.1)}{.0003 \text{ T1}} - \underset{(1.5)}{.000107 \text{ T2}}\end{aligned}$$

RLY = 100*(CGOTR - GNP4 - CGTPC + MI + FYEMP + EECOMPC - EECOMPD – EMPSC-EESC + SBHH - TYHH) / PCE

MORT = 100 *LHP y (RHF) / PCE

Estimation period: 1972Q1 to 2002Q4

$R^2 = 0.66$ Normality $CHI^2_2 = 4.7$

SE = 0.0071 Hetero F (1,122) = 0.13

LM F (4,106) = 2.1

Summary of Equation Properties

Static long-run solution:

Ln C = 0.957 Ln RLY + 0.043 Ln (NFWPE/PCE)

Elasticity of C with respect to a 1% increase in:

	Q1	Q5	Q9	Q13	Long-run
Real labour income (LnRLY)	0.00000	0.38000	0.60200	0.74000	0.95700
Real financial wealth [Ln(NFWPE/PCE)]	0.00000	0.01730	0.02700	0.03400	0.04300
Real housing wealth [Ln(GPW/PCE)]	0.14160	0.07600	0.04100	0.02800	0.00000
Nominal interest rate (RS) *	-0.00070	-0.00039	-0.00020	-0.00010	0.00000
RPDI (Ln RHHDI)	0.19450	0.06372	0.03460	0.02240	0.00000
Unemployment rate (UNUKP)	-0.00840	-0.00451	-0.00270	-0.00170	0.00000
Real value of mortgages (MORT)	0.00000	-0.13400	-0.08200	-0.05100	0.00000

* Semi-elasticity

Comment

The aggregate equation for personal sector consumption is the major equation of this sector of the model. The major explanatory variables in the aggregate equation are real disposable labour income and real financial wealth, representing current and (expected) lifetime resources. Long-run homogeneity with respect to real labour income and wealth is imposed. In addition there are short run dynamic effects from real disposable income, short interest rates, real mortgage payments and unemployment (capturing confidence effects or the precautionary motive to save). The terms in real disposable income and real mortgage payments allow differential marginal propensities to consume out of non-labour income. The short rate term may reflect the cost of

borrowing or short run credit-rationing effects. The dummy variables t1 and t2 (a split time trend) crudely attempts to capture the effects of financial deregulation and the increase in precautionary saving associated with the recession of the early 1990s.

Further Documentation:
GES Working Paper No.122, GES Working Paper No. 123, OMPG (94)9, MSG(95)7

No.	Name	Description	Unit	Source	Identifier
0106	C£	Household + NPISH expenditure	£M	ONS	ABJQ+HAYE

Model equation: Technical Relationship (identity)

C£ = 0.01 * C * PCE

No.	Name	Description	Unit	Source	Identifier
0107	CDUR£	HH consumption: durable goods	£M	ONS	UTIB

Model equation: Technical Relationship

ratio(CDUR£) = ratio(C£)

GROUP TWO: INVENTORIES

The theory underlying the specification of the behavioural inventory equation is based on the notion that firms hold inventories in order to reduce the risk of stock-out and its associated costs. Firms' optimisation decisions are assumed to involve them in holding that level of stocks at which the marginal financing and physical storage costs just balance the gain from the expected marginal reduction in stock-out costs. The specification for empirical implementation contains terms to proxy expected product demand and the financing costs of stockholding.

No.	Name	Description	Unit	Source	Identifier
0201	INV	Inventory levels, end quarter	£M, CVM	HMT	-

Inventory levels are constructed by taking the latest published estimate of the level of inventories and then cumulating the change in inventories (DINV).

Model equation: Behavioural Equation

$$\text{Ln INV} = \underset{(5.1)}{(1 - 0.131)\, g\, \text{Ln}(\text{INV/GVA})} - \underset{(3.4)}{0.00036\, g^2\, \text{CS}} + \underset{(3.9)}{0.246\,(1-g)\,\text{Ln GVA}}$$

$$+ \underset{(0.9)}{0.0011} - \underset{(4.1)}{0.000435\, \text{TREND}_{80}} + \underset{(5.8)}{0.412\, g\,(1 - g)\,\text{Ln INV}}$$

Estimation period: 1970Q1 - 1998Q2

$R^2 = 0.77$ LM F(4,104) = 1.95
SE = 0.0066 Normality $CHI^2_2 = 0.9$
DW = 2.2 Hetero F(1,112) = 0.09

Summary of Equation Properties

Static long-run solution:

$$\text{Ln INV} = \text{Ln GVA} - 0.0028\, \text{CS} - 0.0033\, \text{TREND}_{80}$$

Effect on INV of a 1% increase in:

	Q1	Q5	Q9	Long-run
Output (GVA)	0.2460	0.8020	0.9900	1.0000
Cost of stocks (CS)	0.0000	-0.0010	-0.0020	-0.0028

Comment
Expected sales are proxied by terms gross value added. A time trend is included from 1980 to allow for the reduction in the stock-output ratio due to improved methods of stock control. The cost of stocks term used in estimation incorporates forward-looking price expectations.

Further Documentation: MSG (95)5, MSG(96)11

No.	Name	Description	Unit	Source	Identifier

0204	DINV	Change in inventories	£M, CVM	ONS	CAFU

Model equation: Technical Relationship (identity)

DINV = (1 - g) INV

No.	Name	Description	Unit	Source	Identifier
0205	BV	Book value of inventories, end quarter	£M, CVM	HMT	-

Model equation: Technical Relationship (identity)

BV = 0.01 * PINV * INV

No.	Name	Description	Unit	Source	Identifier
0206	SA	Stock Appreciation (inventories)	£M	ONS	DLRA+EQCB

Model equation: Technical Relationship (identity)

SA = g BV * ((PINV / g PINV) - 1)

No.	Name	Description	Unit	Source	Identifier
0208	DINVHH	Change in inventories of households	£M	ONS	RPZX

Model equation: Technical Relationship

DINVHH = 0.15 * (1 - g) DINV£

No.	Name	Description	Unit	Source	Identifier
0210	CS	Real financing cost of stocks	%	HMT	-

Model equation: Technical Relationship

CS = (PS TFE/ TFE£) [{TCPRO (1 - ZONE) (PINV/ g4 PINV - 1)/ (1 - TCPRO)}

+ {0.01 (RS + 2) (1 - TCPRO) + 1 - PS/ g^4PS} {(1 + (1 - ZTWO) TCPRO / (1 - TCPRO)}]

COMMENT

The financing cost of stocks is an empirical representation of a theoretical construct based on dynamic optimisation subject to a quadratic adjustment cost function. This is essentially modelled as an interest rate less the capital gain on holding stocks (PINV/g^4 PINV - 1), modified to take account of the tax system. ZONE and ZTWO are switch variables which take account of different stock relief regimes: ZONE = 1 gives tax relief on nominal stock appreciation, zero otherwise; and ZTWO = 1 gives tax relief on the physical increase in stocks, zero otherwise. Under present circumstances when ZONE = ZTWO = 0 the expression collapses to:

CS = (PINV*TFE/TFE£) (RS + 2 - PINV/g4 PINV + 1)/ 100

Further Documentation:

Kelly C and Owen D (1985) `Factor Prices in the Treasury Model', Government Economic Service Working Paper No.83.

No.	Name	Description	Unit	Source	Identifier
0211	DINV£	Change in inventories	£M	ONS	CAEX

Model equation: Technical Relationship (identity)

DINV£ = 0.01 * DINV * PINV

No.	Name	Description	Unit	Source	Identifier
0212	DINVCG	CG change in inventories	£M	ONS	RNDA

Model equation: Exogenous variable

Comment: This variable includes increases in Intervention Board for Agricultural Products (IBAPs) stocks and strategic and emergency stocks.

GROUP THREE: INVESTMENT

There are two behavioural equations in this group, one for private sector companies gross fixed capital formation which is defined so as to include the public corporation and oil sectors, the other being for household investment in dwellings. The rest of the group consists of mainly technical relationships and identities.

No.	Name	Description	Unit	Source	Identifier
0301	IBUS	Business Investment	£M, CVM	ONS	NPEL

Business investment is defined as Gross Fixed Capital Formation by 'private' sector companies; it includes investment by public corporations and North Sea companies but excludes investment in dwellings and purchases less sales of land and existing buildings.

Model equation: Behavioural Equation

$$\text{Ln IBUS} = g\,\text{Ln IBUS} - 0.117\,\{\,g\,\text{Ln}(\text{IBUS/GVA}) + \underset{(5.7)}{0.53}\,g\,\text{Ln}\underset{(2.6)}{(\text{COC PGVA/ WCPS}+.0035T)}$$

$$- \underset{(3.9)}{0.40}\,g\,\text{Ln (BCCU)}\} + \underset{(0.9)}{0.52}\,g^3\,(1-g)\,\text{LnGVA} + \underset{(5.7)}{0.117}\,\text{DDUM851} - \underset{(-)}{0.529}$$

$$\text{WCPS} = \text{PSAVEI}\,[1 + (\text{EMPSC} + \text{NIS}\,)\,/\text{WFP}]\,/1.15$$

Estimation period: 1972Q1 to 2002Q4

$R^2 = 0.436$ DW = 2.1
SE = 0.0273 Normality $CHI^2_2 = 0.24$
LM F (4,72) = 0.73 Hetero F (1,80) = 0.26

Summary of Equation Properties

Static long-run solution:

$$\text{Ln IBUS} = \text{Ln GVA} - 0.53\,\text{Ln}(\text{CC PGVA/ WCPS} + .0035T) + 0.40\,\text{Ln (BCCU)}$$

Effect on IBUS of a 1% increase in:

	Q1	Q5	Q9	Long-run
Output (GVA)	0.00	0.85	0.91	1.00
Capacity (BCCU)	0.00	0.02	0.03	0.04
Relative factor prices	0.00	-0.21	-0.33	-0.53

Comment

This specification uses the cost minimisation approach, as in Kelly and Owen (1985). Accordingly investment is modelled as a function of output and relative factor prices. The term in capacity utilisation can be interpreted as an integral control mechanism, providing some feedback from the implicit capital stock. Firms invest in new capital on the basis of expectations of output and relative factor prices; if these turn out to have been too optimistic, capacity utilisation falls and firms cut back their investment plans. In the long run it is assumed that the investment-output ratio is proportional to the capital-output ratio.

Relative factor prices are adjusted for trend labour productivity as estimated from the employment equation, and as a consequence should be interpreted as the real cost of capital relative to the real wage per effective worker. The equation uses a measure of capacity utilisation in manufacturing as an imperfect proxy for private sector utilisation. A dummy variable is included for the corporation tax changes in the mid 1980s.

Further Documentation

MRG (94) 6 `Financing Constraints and Investment' by Robert Woods
AP(94) 15 `Business Investment' by Robert Woods, MSG(95) 5, MSG(97)18

No.	Name	Description	Unit	Source	Identifier
0302	PCIH	PC's investment in dwellings	£M, CVM	ONS	DKQH

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0303	VAL	Net acquisitions of valuables	£M, CVM	ONS	NPJR

Model equation: Exogenous variable

VAL = g VAL

No.	Name	Description	Unit	Source	Identifier
0304	GGI£	General Government GFCF	£M	ONS	RNCZ+RNSM

Model equation: Technical Relationship (Identity)

GGI£ = CGI£ + LAI£

No.	Name	Description	Unit	Source	Identifier
0305	IH	Private Sector investment in housing	£M, CVM	ONS	DFEA

Model equation: Behavioural Equation

$$\text{Ln IH} = \underset{(2.7)}{0.129\, g\, \text{Ln (APH/PCE)}} - \underset{(2.8)}{0.0203\, g\, (1-g)\, RS} - \underset{(4.0)}{0.0027\, g\, [RS - 400\, (1-g)\, \text{Ln APH}]} + \underset{(4.1)}{(1-0.32)\, g\, \text{Ln IH}} + \underset{(4.1)}{2.759}$$

Estimation period: 1978Q1 to 2002Q4

$R^2 = 0.23$ DW = 2.1
SE = 0.07 Normality $CHI^2_2 = 2.3$
LM F (4,91) = 1.74 Hetero F (1,80) = 0.0005

Summary of Equation Properties

Static long-run solution:

$$\text{Ln IH} = 0.40\, \text{Ln (APH/PCE)} - 0.0084\, [RS - 400\, (1-g)\, \text{Ln APH}] + \text{constant}$$

Effect on IH of a 1% increase in:

	Q1	Q5	Q9	Long-run
Real interst rate* [RS-400 (1-g) Ln APH]	0.0000	-0.0066	-0.0080	-0.0084
Real house prices (APH/PCE)	0.0000	0.3200	0.0380	0.4000
Short rates* (RS)	0.0000	0.0064	0.0010	0.0000

* Semi-elasticity

Comment

Previous versions of the model included separate equations for investment in new dwellings and for home improvements. We have now switched to an aggregate equation conditioned on real house prices, real interest rates and nominal short rates. The equation can be interpreted as a structural supply relation.

Further Documentation: GES Working Paper No.123, MSG(96) 9

No.	Name	Description	Unit	Source	Identifier
0306	GGI	General Government GFCF	£M, CVM	ONS	DLWF

Model equation: Technical Relationship (Identity)

$$GGI = 0.01 * (GGI£ / GGIDEF)$$

No.	Name	Description	Unit	Source	Identifier
0307	VAL£	Net acquisitions of valuables	£M	ONS	NPJQ

Model equation: Technical Relationship (Identity)

VAL£ = 0.01 * VAL * PIF

No.	Name	Description	Unit	Source	Identifier
0308	IF	Total Gross Fixed Capital Formation	£M, CVM	ONS	NPQT

Model equation: Technical Relationship (Identity)

IF = IBUS + IH + GGI + IPRL + PCLEB

Comment

This identity defines total gross domestic fixed capital formation in real terms as the sum of the individual sector categories: business investment, housing investment, general Government investment, transfer costs of land and existing buildings for the private sector and public corporations investment in land and existing buildings.

No.	Name	Description	Unit	Source	Identifier
0309	COC	Cost of Capital in Private Sector industry	%	HMT	-

Model equation: Technical Relationship

$$COC = [RM - (PGVA/g^{4}\ PGVA - 1) + 2\ (0.6/23 + 0.25/60 + 0.15/10)]$$

$$\mathbf{[}1 - 0.6\ \{GPM + \frac{TCPRO\ (1 - GPM)\ (SP + FP\ RM)}{(1 + RM)^{1.25}(SP + RM)} + 0.03\} -$$

$$0.25\ \frac{(TCPRO\ (FIB + SIB\ (1 - (1 + RM)^{((FIB - 1)/SIB)})/RM)}{(1 + RM)^{1.25}\ (2.1)} + 0.03) -$$

$$(1 + RM)^{-0.25}\ 0.15\ SV\ TCPRO\ /\ (SV + RM)\ \mathbf{]}\ PIF\ /\ [(1 - TCPRO/\ (1 + RM)^{1.25})\ PGVA]$$

Where:

RM = max [(0.213 (1 - TCPRO)/ (1 - 1.25 TCPRO RSL)
+ (0.677 (RSL (1-TPBRZ) + 0.1)/ (RSL (1-TPBRZ)
+ 0.1 (1 - T4)) + 0.11)(1 - TPBRZ)) RSL,0]

RSL = 0.01 (0.5 RS + 0.5 RL) + 0.015

T4 = 0.3 if $T \leq TZ$ (1982Q1)
0 if $T > TZ$ (1982Q1)

GPM = 0 0 if $T > TZ$ (1970Q3)
0.20 if $T \leq TZ$ (1970Q3)
0.25 if $T \leq TZ$ (1967Q4)
0.20 if $T \leq TZ$ (1966Q4)

Comment

This variable measure real own-product marginal post-tax cost of capital in private sector industry. It is a King-type measure, see Kelly and Owen (1985). The cost of finance measure, RM, weights together the cost of debt, equity and retained earnings, taking account of the different tax treatment of these sources of finance. The value of investment allowances available on plant and machinery and new building works are evaluated separately. For estimation purposes, the variable is defined with a forward looking inflation term, the data for which is computed as follows:

$EXP = \{1 + [PGVA(+2) - PGVA(-4)] / PGVA(-4)\}^{0.67} - 1$

The changes in the tax allowance regime are captured by the switch variables T, G, and GPM. The parameters of the investment allowance system are captured by asset specific Exogenous variables for the first year and annual writing down allowances FP, SP, FIB, SIB and SV.

Further Documentation

Kelly, C, and Owen, D. `Factor Prices in the Treasury Model', Government Economic Service Working Paper No. 83.

No.	Name	Description	Unit	Source	Identifier
0310	VALHH	Households' net acquisitions of valuables	£M	ONS	RPZY

Model equation: Technical Relationship

VALHH = 0.25 * VAL£

Comment: Coefficient obtained from the long-run ratio between the two series.

No.	Name	Description	Unit	Source	Identifier
0311	NPAHH	HH net acquisitions of non-produced non-financial assets e.g. land	£M	ONS	RPZU

Model equation: Exogenous variable.

NPAHH = g NPAHH

No.	Name	Description	Unit	Source	Identifier
0312	IF£	Total Gross Fixed Capital Formation	£M	ONS	NPQS

Model equation: Technical Relationship (Identity)

IF£ = 0.01 * IF * PIF

No.	Name	Description	Unit	Source	Identifier
0313	IHH£	Households GFCF	£M	ONS	RPZW

Model equation: Technical Relationship

IHH£ = ((0.5042*APH/1.1122 + (1-0.5042)*PI)*(0.9881*IH + 0.6713*IPRL)
+ PI*0.0758*IBUS) / 100

*W PI = (PIF-0.08424*APH/1.1122)/(1-0.08424)

Comment

This equation allocates proportions of constant price investment to households and then converts to current prices using the relevant deflators. The weights reflect those used in the working variable ICOST that is a measure of investment costs used in the behavioural equation for the price of fixed investment – see comment under variable 0710 PIF.

No.	Name	Description	Unit	Source	Identifier
0314	ICC£	Private Non-Financial Companies GFCF	£M	ONS	ROAW

Model equation: Technical Relationship

ICC£ = ((0.5042*APH/1.1122 + (1-0.5042)*PI)*(0.0119*IH + 0.3393*IPRL)
+ PI*0.8280*IBUS) / 100

*W PI = (PIF-0.08424*APH/1.1122)/(1-0.08424)

Comment: The variable is similar in construction to that for IHH£.

No.	Name	Description	Unit	Source	Identifier
0315	CGIDEF	General Govt Investment Deflator	Index	ONS	100*(RNCZ+ RNSM)/DLWF

Model equation: Technical Relationship

GGIDEF = g GGIDEF * (PIF/ g PIF)

No.	Name	Description	Unit	Source	Identifier
0316	ILAND	Investment in land	£M, CVM	HMT	I

Model equation: Technical Relationship (Identity)

ILAND = GGLEB + PCLEB + IPRL

No.	Name	Description	Unit	Source	Identifier
0317	IPRL	Other Private Sector investment (transfer costs for land & existing buildings)	£M, CVM	ONS	DLWI

Model equation: Exogenous variable

Comment

Gross fixed capital formation in land and existing buildings by the private sector covers primarily the capital cost of freeholds purchased, the capital cost of premiums payable for leaseholds acquired, associated professional fees and other transfer costs. Transfer costs cover stamp duty, legal fees, dealers' margins, agents' commissions and other costs incurred in connection with the transfer of ownership of land and buildings, together with any non-deductible VAT which they attract. Sales of council house dwellings are also included here. Over all sectors of the economy some of these items net out to give transfer costs only.

No.	Name	Description	Unit	Source
0320	FP	Rate of first year allowances for plant and machinery	%	IR
0321	SP	Rate of annual writing down allowance on plant and machinery	%	IR
0322	FIB	Rate of first year allowance on industrial buildings	%	IR
0323	SIB	Rate of annual writing down allowance on industrial buildings	%	IR
0324	SV	Rate of annual writing down allowance on vehicles	%	IR

Model equation: Exogenous variables

Comment: The rates on these investment allowances are obtained from Inland Revenue Statistics, they influence the cost of capital and corporation tax receipts.

No.	Name	Description	Unit	Source	Identifier
0326	GPW	Household sector gross physical wealth	£BN	ONS	CGRP

Model equation: Technical Relationship (Identity)

GPW = 0.9933 g GPW * APH / g APH + 0.001 * (IHH£)

Comment

This data is only available annually and quarterly data is constructed by interpolation. Housing wealth is the main component of personal sector gross physical wealth, and so the equation simply revalues the previous period's wealth in line with house prices and adds on current price investment in housing.

No.	Name	Description	Unit	Source	Identifier
0327	IFC£	Investment by Financial Companies	£M	ONS	RPYQ

Model equation: Technical Relationship (Identity)

IFC£ = IF£ - IHH£ - ICC£ - LAI£ - CGI£ - IPC£

Comment

Investment by FINCOs is obtained by residual from total investment and investment by households, PNFCs, general government, and public corporations (V1202).

GROUP FOUR: THE LABOUR MARKET

The equations in the labour market group determine employment in the private sector (including public corporations) given the assumption that firms minimise costs subject to the production function and expected future sales. Employment in central Government and local authorities is exogenous. The market structure is assumed to be one of imperfect competition. Unemployment is determined via an equation for labour market participation.

No.	Name	Description	Unit	Source	Identifier
0401	EPS	Private Sector employment (inc. PCs)	000s	ONS	*1

*1 = DYDC(Q)-LOJU(Q)-CGZH(Q)*1000-CULX(Q)-CUAN(Q)

Model equation: Behavioural Equation

$$\text{Ln EPS} = (1+0.722-0.722g)\ g\ \text{Ln EPS} - 0.064\ g\ \{\text{Ln (EPS/GVA)} - 0.04\ \text{Ln (CC*PVGA / WCPS)} + 0.00418\ T\ \} + 0.14\ g(1-g)\ \text{Ln GVA} - 0.98514$$

(13.4) (3.1) (-) (23.5) (2.1) (3.1)

$$\text{WCPS} = \text{PSAVEI}\ [\ 1 + (\ \text{EMPSC} + \text{NIS}\ ) / \text{WFP}\ ] / 1.15$$

Estimation period: 1982Q1 to 2003Q2
$R^2 = 0.79$
SE = 0.0026 Normality $CHI^2_2 = 0.94$
LM F (4,77) = 1.19 Hetero F (1,84) = 1.93

Summary of Equation Properties

Static long-run solution:
Ln EPS = Ln GVA + 0.04 Ln (COC * PGVA/WCPS) - 0.00418 TREND + constant

Effect on EPS of a 1% increase in:

	Q1	Q5	Q9	Long-run
Output (GVA)	0.0000	0.6010	1.0000	1.0000
Relative factor prices (COC PGVA/WCPS)	0.0000	0.0170	0.0400	0.0400

Comment: Private sector employment is defined as total workforce jobs less those on work related government training programmes and employment in general government. Employment is related to output with a unit long-run elasticity, relative factor prices, and a deterministic trend to capture underlying productivity growth. The equation implies long run productivity growth of around 1.7% per annum given relative factor prices. The coefficient on relative factor prices was imposed following an examination of simulation properties.

Further Documentation: AP(93) 2 `A supply side for the Treasury macroeconomic model' by J. Darby, C. Owen, and S. Wren-Lewis, MSG(97) 18

No.	Name	Description	Unit	Source	Identifier
0402	ETLFS	LFS employment (inc. self -employed)	000s	ONS	MGRZ

Model equation: Technical Relationship.

ETLFS = WFJ

Comment

The residual on this equation accounts for the difference between the two measures of employment, and since the LFS measure refers to persons and the other to jobs this residual largely reflects second jobs.

No.	Name	Description	Unit	Source	Identifier
0404	ET	UK employed labour force (WFJ)	000s	ONS	*2

*2 = DYDC(Q)-LOJU(Q)

Model equation: Technical Relationship (Identity)

ET = EPS + EOIL + ECG + ELA

Comment

Total employment i.e. excluding those on work related government training programmes is equal to employment in the private sector (including public corporations), the North sea and non-trading general government.

No.	Name	Description	Unit	Source	Identifier
0405	ULFS	LFS unemployment (ILO)	000s	ONS	MGSC

Model equation: Behavioural Equation

$$ULFS = \underset{(13.4)}{g\ ULFS} + \underset{(3.1)}{0.301g(1-g)\ ULFS} - 0.0304\ g\ (ULFS + IVB + ED - POP + WRGTP + 0.8\ ET)$$

$$- \underset{(4.0)\ (2.0)\ (1.8)}{(0.363 + 0.269g - 0.173\ g^2)}\ (1 - g)\ ET - \underset{(1.0)}{0.278\ (1 - g)\ IVB} - \underset{(2.9)}{299.98}$$

Estimation period: 1977Q1 to 1998Q2

$R^2 = 0.81$
SE = 42.99
LM F (4,75) = 1.38
Normality $CHI^2_2 = 0.59$
Hetero F (1,81) = 1.79

Summary of Equation Properties

Static long-run solution:

$$ULFS = 1.0 * (POP - WRGTP - ED - IVB) - 0.8 * ET + constant$$

Effect on ULFS of a 1% increase in:

	Q1	Q5	Q9	Long-run
(POP - WRGTP - ED)	0.0000	0.1480	0.2900	1.0000
Total Employment (ET)	-0.3630	-0.6880	-0.7040	-0.8000
IVB recipients	-0.2780	-0.4930	-0.5780	-1.0000

Comment

The LFS measure of unemployment relates to people aged 16 and over who, when interviewed in the Labour Force Survey, stated that they were available to start work in the next two weeks and had either looked for work in the previous four weeks prior or were waiting to start a job they had already obtained. This International Labour Organisation (ILO) measure differs from the claimant count since it includes job seekers who are not in receipt of benefit but excludes those who register as unemployed and receive benefit but reply in survey questions that they are not actively searching for work.

The unemployment equation is essentially an equation for labour market participation. Key assumptions are that the number of full-time home students, IVB recipients and people on work-related government training programmes is determined exogenously, and that participation from the population of working age net of these categories (POP*) moves cyclically with employment. The long run coefficients were (validly) imposed.

Thus:

(ILOU+ET)/POP* = a + b (ET/POP*) [1]

Where

ILOU = ILO unemployment
ET = total employment
POP* = POP - WRGTP - ED - IVB

Equation [1] is readily rewritten as

ILOU = a POP* - (1 - b) ET 0 < b < 1

Thus when employment falls by 100 (for given POP*), unemployment rises by less than 100 due to a `discouraged worker' effect whereby former participants leave the labour force and become inactive.

Further Documentation: MSG(95)8, MSG(95)13, MSG(95)16, MSG(97)11

No.	Name	Description	Unit	Source	Identifier
0406	U	Claimant count unemployment	000s	ONS	BCJD

Model equation: Technical Relationship

U = ULFS

Comment

The claimant count records the number of people claiming Jobseeker's Allowance benefits, it is seasonally adjusted and consistent with current coverage to reflect the changes in definition. It is linked by identity to the ILO measure of unemployment.

No.	Name	Description	Unit	Source	Identifier
0407	UNUKP	Claimant count unemployment rate	%	HMT	-

Model equation: Technical Relationship (Identity)

UNUKP = 100 * U / (WFJ + U)

Comment

The claimant count unemployment rate is a constructed variable but it is identical in definition to the series published by the ONS using the identifier BCJA.

No.	Name	Description	Unit	Source	Identifier
0408	IVB	Invalidity/Incapacity benefit recipients	000s	HMT	-

Model equation: Exogenous variable

Comment

The numbers of invalidity/incapacity benefit recipients can be obtained from the Department for Work and Pensions, figures and ONS identifiers for Gt Britain only can be obtained from Table 10.5 in the Annual Abstract of Statistics.

No.	Name	Description	Unit	Source	Identifier
0409	ED	Full-time home students in further and higher education	000s	HMT	-

Model equation: Exogenous variable

Comment

This variable can be sourced from Education statistics for the UK or the Department for Education and Skills who also produce some projections.

No.	Name	Description	Unit	Source	Identifier
0410	ES	Employers and self employed (WFJ)	000s	ONS	DYZN(Q)

Model equation: Exogenous variable

Comment

Workforce Jobs (WFJ) figures are a measure of jobs rather than people. For example, if a person holds two jobs, each job will be counted in the WFJ total. For this reason, self-employment jobs (which come from the Labour Force Survey (LFS)) will not equal the figures for self-employed persons from the LFS.

No.	Name	Description	Unit	Source	Identifier
0411	EOIL	Offshore oil and gas employment	000s	ONS	CGZH(Q)

Model equation: Technical relationship

EOIL = gEOIL*(NSGVA/gNSGVA)

No.	Name	Description	Unit	Source	Identifier
0412	POP	Total population of working age	000s	ONS	YBTF

Model equation: Exogenous variable

Comment

This variable refers to the LFS estimate of household population. As well as private households the LFS includes two groups of people living in communal establishments: student halls of residence and National Health Service accommodation but excludes those living in other types of accommodation e.g. army camps, local authority homes and prisons. Projections can be made using the Government Actuaries' Department (GAD) projections for total population including those of working age.

No.	Name	Description	Unit	Source	Identifier
0413	WRGTP	Work Related Govt Training Programmes	000s	ONS	LOJU(Q)

Model equation: Exogenous variable

Comment

This variable includes numbers on YOPS from 1979Q4 to 1983Q4 and covers programmes such as the Youth Training Scheme (YTS). It includes those who are receiving skills-based training in workplaces but do not have employee status: those who have employee status are included in employee jobs.

No.	Name	Description	Unit	Source	Identifier
0414	WFJ	Workforce in employment (WFJ)	000s	ONS	DYDC(Q)

Model equation: Technical Relationship (Identity)

WFJ = ET + WRGTP

No.	Name	Description	Unit	Source	Identifier
0416	LFSUR	LFS unemployment rate (ILO)	%	ONS	MGSX

Model equation: Technical Relationship (Identity)

LFSUR = 100 * ULFS / (ETLFS + ULFS)

GROUP FIVE: EXPORTS OF GOODS AND SERVICES

This group contains equations for exports of non-oil goods and exports of services. It also includes various Exogenous variables reflecting world trade in non-oil goods, and measures of international competitiveness. The data used are based on a Balance of Payments rather than Overseas Trade Statistics basis. Trade prices are modelled in terms of average value indices (AVI).

No.	Name	Description	Unit	Source	Identifier
0501	XNO	Exports of Non-Oil goods inc. erratics	£M, CVM	ONS	BQAN

Model equation: Technical Relationship (Identity)

XNO = XNOX + XMTIC

No.	Name	Description	Unit	Source	Identifier
0502	XNOX	Exports of Non-Oil goods ex. MTIC	£M, CVM	ONS	*0502

Model equation: Behavioural Equation

$$LnXNOX = Ln\ MKTGS + gLn(XNOX/MKTGS) - [0.522+0.203\ g]g\ (1-g)Ln(XNO/\ MKTGS)$$
$$(7.1) \quad (4.1)$$

$$- 0.118\ g^3\ Ln\ (XNOX / MKTGS) - 0.118\ Ln\ RPRICE + 1.159 - 0.151\ DD791$$
$$(4.6) \quad (-) \quad (4.6) \quad (9.4)$$

Estimation period: 1976Q1 to 2005Q4

$R^2 = 0.64$ DW=1.97
SE = 0.022 Normality $CHI^2_2 = 0.90$
LM F (4,103) = 0.68 Hetero F (1,110) = 0.37

Summary of Equation Properties

Static long-run solution:

LnXNOX =Ln MKTGS - 1.0 Ln RPRICE + constant

Effect on XNOX of a 1% increase in:

	Q1	Q5	Q9	Long-run
UK Export Markets (MKTGS)	1.0000	1.0000	1.0000	1.0000
Relative export prices (RPRICE)	-0.1180	-0.3380	-0.5080	-1.0000

Comment

This equation assumes that the demand for UK non-oil goods is determined by UK export market trade in non-oil goods and relative prices.

Further Documentation

MRG(93) 7, MRG(93) 8 and MRG(93) 14
David Tan minutes of 1 July 1993 (to Rod Whittaker) and of 4th July 1993 (to Simon Brooks)
Robert Woods `Investment, R&D and Manufactured Trade' AP(95) 2

No.	Name	Description	Unit	Source	Identifier
0503	XS	Total exports of services	£M, CVM	ONS	IKBE

Model equation: Behavioural Equation

$$\text{Ln XS} = \underset{(4.1)}{g\,\text{LnXS}} - \underset{(4.2)}{0.37\,g(1-g)\,\text{Ln XS}} - \underset{(2.6)}{0.12\,\text{Ln}(g^2\,\text{XS/WTGS})} - 0.092\,\text{Ln(PXS*RXD/ M14CP)}$$

$$- \underset{(3.3)}{0.078\,\text{DUM 911}} - \underset{(3.7)}{0.0938\,\text{DUM 021}} + \underset{(4.3)}{0.343}$$

Estimation period: 1981Q4 to 2003Q4

$R^2 = 0.32$ DW=2.2
SE = 0.0251 Normality $CHI^2_2 = 0.67$
LM F (4,63) = 1.02 Hetero F (1,70) = 0.0075

Summary of Equation Properties

Static long-run solution:

$$\text{Ln XS} = \text{Ln WTGS} - 0.75\,\text{Ln (PXS RXD / M14CP)} + \text{constant}$$

Effect on XS of a 1% increase in:

	Q1	Q5	Q9	Long-run
Relative prices (PXS*RXD/M6CP)	-0.1200	-0.3100	-0.4600	-0.7500
World trade in non-oil goods (WTGS)	0.1200	0.4100	0.6100	1.0000

Comment

This equation conditions exports of services on a measure of world activity (world trade in non-oil goods) and a measure of price competitiveness.

No.	Name	Description	Unit	Source	Identifier
0504	XG	Total exports of goods	£M, CVM	ONS	BQKQ

Model equation: Technical Relationship (Identity)

XG = XNO + XOIL

No.	Name	Description	Unit	Source	Identifier
0505	X	Exports of goods and services	£M, CVM	ONS	IKBK

Model equation: Technical Relationship (Identity)

X = XS + XG

No.	Name	Description	Unit	Source	Identifier
0506	MKTGS	UK export markets for goods & services	Index	HMT	-

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0507	X£	Exports of goods and services	£M	ONS	IKBH

Model equation: Technical Relationship (Identity)

X£ = 0.01* (XNO*PXNO + XS*PXS + XOIL*PXOIL)

No.	Name	Description	Unit	Source	Identifier
0508	XMTIC	MTIC fraud related exports, CVM	£M, CVM	ONS	*0508

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0509	XMTIC£	MTIC fraud related exports, cash	£M, cash	ONS	*0509

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0510	WTGS	World Trade in non-oil Goods & services	Index	OECD	-

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0512	RPRICE	Relative export prices	Index	ONS	CTPC

Model equation: Technical Relationship

Ln RPRICE= -0.02 + Ln [100*PXNO*RXD/(1.393*WPG)] - 0.000604 T

GROUP SIX: IMPORTS OF GOODS AND SERVICES

This group comprises a single behavioural equation for imports of non-oil goods and services. It also contains identities for total import volumes and values.

No.	Name	Description	Unit	Source	Identifier
0601	MN0S	Imports of Non-Oil goods and services	£M, CVM	ONS	JTEA

Model equation: Technical Relationship (Identity)

MNOS = MNOSX + MMTIC

No.	Name	Description	Unit	Source	Identifier
0602	MN0SX	Imports of Non-Oil goods and Services ex. MTIC	£M, CVM	ONS	*0602

Model equation: Behavioural Equation

$$MNOSX = (A + 0.6(XNOX+XS))\ [(1 - 0.27)\ g\ MA - 0.020\ g\ Ln\ (PMNOSX / DEF)$$
$$(4.8)$$

$$+\ 0.0365\ Ln\ SPECX + 0.278\ \{(1 - g^3)\ Ln\ A\}\ MA + 0.002\ ]$$
$$(4.0) \qquad (3.0)$$

MA = MNOSX/ (A + 0.6 (XNO + XS))
A = C + DINV + IF + 0.5 CGG –NSGVA + XOIL - MOIL
DEF = 100*(C*+DINV*+IF*+CGG*-OIL)/(C+DINV+IF+CGG–OIL–NSGVA+XOIL- MOIL)
OIL = (-XOIL*PXOIL + MOIL*PMOIL+ 100*((NSGVA*PBRENT) / (17*RXD))

Estimation period: 1980Q1 to 2004Q4

R^2 = 0.23
SE = 0.003
LM Chi^2_4 =12.8
DW=2.0
Normality Chi^2_2 = 1.21
Hetero Chi^2_1 = 0.12

Summary of Equation Properties

Static long-run solution:

$$MNOSX = (A + 0.6(XNOX+XS))\ [- 0.07\ Ln\ (PMNOSX / DEF) + 0.12\ LnSPECX\ ]$$

Effect on MNOS of a 1% increase in:

	Q1	Q5	Q9	Long-run
Trend Specialisation (LnSPECX)	0.0320	0.0960	0.1140	0.1220
Relative Prices (Ln(PMNOSX / DEF))	0.0000	-0.0470	-0.0610	-0.0700
Domestic Absorption (LnA)	0.3070	0.3820	0.1140	0.0000

Comment

The equation for imports of goods and services equation is based on a share specification that models the share of imports in domestic absorption (MA). The share is determined by relative prices; trend specialisation (an eight quarter backward moving average of the ratio of OECD exports to industrial production) and a difference term in the log of the domestic absorption, scaled by the share. The elasticities of the share with respect to its arguments depend on the values of the share. The introduction of chain-linked data has exacerbated problems with the share specification, the competitiveness elasticity was validly imposed and the constant was adjusted in the light of simulation properties.

Further Documentation: AP(90) 5, MRG(90) 5, MRG(90) 7, AP(95) 5

No.	Name	Description	Unit	Source	Identifier
0605	M	Imports of goods and services	£M, CVM	ONS	IKBL

Model equation: Technical Relationship (Identity)

M = MNOS + MOIL

No.	Name	Description	Unit	Source	Identifier
0606	MMTIC	MTIC fraud related imports, CVM	£M, CVM	ONS	*0606

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0607	SPECX	Trend specialisation in world trade and industrial production.	Index	HMT	-

Model equation: Exogenous variable

Comment

This variable captures trend specialisation in world production and is defined as an eight quarter moving average ratio of world trade to industrial production.

No.	Name	Description	Unit	Source	Identifier
0608	MMTIC£	MTIC fraud related imports, cash	£M, Cash	ONS	*0608

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0609	M£	Imports of goods and services	£M	ONS	IKBI

Model equation: Technical Relationship (Identity)

M£ = 0.01 * (MNOS * PMNOS + MOIL * PMOIL)

No.	Name	Description	Unit	Source	Identifier
0610	TB	Balance of trade in goods & services	£M	ONS	IKBJ

Model equation: Technical Relationship (Identity)

TB = (XNO*PXNO + XS*PXS + XOIL*PXOIL - MNOS*PMNOS - MOIL*PMOIL)/100

GROUP SEVEN: PRICES, COSTS AND EARNINGS

This group contains average earnings and all the price equations in the model, including the expenditure deflators, trade prices and exogenous world prices. Retail prices are determined according to the behavioural equation for the RPI excluding mortgage interest payments, rent and rates/council tax (RROSSI). Domestic producer prices (PPIY) are determined along similar lines as retail prices. Producer prices are a major determinant of competitiveness and feed into retail costs and other prices, for example the investment deflators and trade prices.

No.	Name	Description	Unit	Source	Identifier
0701	PPIY	Producer output price index ex. taxes	Index	ONS	PVNQ

Model equation: Behavioural Equation

$$\begin{aligned}\text{Ln PPIY} = {} & 0.05 + g\,\text{Ln PPIY} + 0.723\,g\,(1-g)\,\text{Ln PPIY} + 0.0118\,(1-g)\,\text{Ln}(\text{PBRENT/RXD}) \\ & (5.7) \qquad\qquad (17.8) \qquad\qquad (3.7) \\ & - 0.077\,\{\,g\,\text{Ln PMNOS} - 0.55\,g\,\text{Ln}(\text{ULCPS} - 0.0011\text{T}) - (1.0-0.55)\,g\,\text{Ln PMNOS}\,\} \\ & \quad (-) \qquad\qquad (-) \qquad\qquad (3.5) \qquad\qquad (-) \\ & + 0.14\,(1-g)\,\text{Ln PMNOS} + (1.0 - 0.723 - 0.011 - 0.14)\,(1-g)\,\text{Ln ULCPS} \\ & \quad (6.6) \qquad\qquad\qquad\qquad\qquad\qquad (-)\end{aligned}$$

Estimation period: 1976Q4 to 2002Q4

$R^2 = 0.86$ DW=2.1
SE = 0.004
LM F (4,95) = 1.1 Hetero F (1,103) = 5.7

Summary of Equation Properties

Static long-run solution:

$$\text{Ln PPIY} = 0.45\,\text{Ln PMNOS} + 0.55\,\text{Ln}(\text{ULCPS} - .0011\,\text{T}) + \text{constant}$$

Effect on PPIY of a 1% increase in:

	Q1	Q5	Q9	Long-run
Unit labour costs (ULCPS)	0.1220	0.5300	0.6540	0.5500
Import prices (PMNOS)	0.1410	0.5200	0.5730	0.4500
Oil prices	0.0120	0.0230	0.0100	0.0000

Comment

The theory underlying the determination of producer output prices is that of the imperfectly competitive firm maximising profit subject to a downward sloping demand curve and its production function. Private sector unit labour costs are modified by a time trend in an attempt to reflect the difference between private sector and manufacturing productivity growth. The equation possesses both static and dynamic homogeneity, but dynamic homogeneity was imposed. Dynamic homogeneity implies that the margin of prices over costs is invariant to the rate of price inflation in the steady state.

Further Documentation: MRG(89)4, MRG(89)3, MSG(97)7

No.	Name	Description	Unit	Source	Identifier
0702	ADJW	Time varying coefficient for wages & salaries	Number	HMT	-

Model equation: Technical Relationship

ADJW = g ADJW

Comment

Whole economy wages and salaries is defined as the sum of general government and 'private' sector wages and salaries, but when this is calculated as the sum of average earnings indices multiplied by employment there is a small residual that is captured by this variable.

ADJW = [WFP- (0.049665*ERCG*ECG + 0.035689*ERLA*ELA)] /(PSAVEI*(EPS-ES+EOIL))

No.	Name	Description	Unit	Source	Identifier
0703	PCE	Consumers' expenditure deflator	Index	ONS	100* (ABJQ+HAYE) /NPSP

Model equation: Technical Relationship

Ln PCE = Ln{ [PRXMIP–(0.038 PCT+0.047 HD)/(1–0.039)] / (1 – (0.038+ 0.047) / (1 - 0.039)) }

- 0.007*Q2 + 0.403

Comment

This equation links the consumers' expenditure deflator to the retail price index (PR) excluding mortgage interest payments (PRXMIP), the community charge / council tax (PCT), housing depreciation (HD) and a seasonal dummy.

No.	Name	Description	Unit	Source	Identifier
0704	RPCOST	Index of retail price costs	Index	HMT	-

Model equation: Technical Relationship

$$RPCOST = 0.01 * [\ 61.9*ULCPS + 0.88*PMOIL + 32.1*PMNOS + 4.5*TAX + (100\ .62*\ PBRENT) / (18.85*RXD)\ ]$$

Comment

The parameters that precede each cost component are weights. There were calculated from 1990 input-output tables by decomposing expenditure on goods and services into inputs into domestic production, indirect taxation that falls on firms, inputs into distribution and retailing, and expenditure on finished imports.

Further Documentation: MSG(97)20

No.	Name	Description	Unit	Source	Identifier
0705	RROSSI	RPI ex. MIPs, council tax and rents	Index	ONS	GUMF

Model equation: Behavioural Equation

$$\begin{aligned} Ln\ RROSSI = {} & Ln\ \{\ [g^4\ RROSSI\ g^4\ (1 - 0.01\ RPTAX)\ ]\ /\ (1 - 0.01\ RPTAX)\ \} \\ & + 0.021759 \quad (2.7) \\ & + (0.238 - 0.073\ g^4)\ (1-g^4)\ Ln\ (RPCOST) \quad (7.7) \quad (2.3) \\ & + (1 - 0.238 + 0.073)\ g\ (1 - g^4)\ Ln\ (RROSSI\ (1 - 0.01\ RPTAX)) \quad (-) \quad (-) \\ & - 0.107\ g^4 Ln\ [RROSSI\ (1 - 0.01\ RPTAX) / RPCOST] \quad (3.5) \\ & + 0.0634\ g^2\ (1 - g^4)\ Ln\ C \quad (2.3) \\ & + 0.095g\ (1 - g^4)\ Ln\ (GVA\ /EPS) \quad (2.8) \end{aligned}$$

Estimation period: 1977Q1 to 2002Q4

$R^2 = 0.978$ Norm $CHI^2_2 = 5.2$

SE = 0.0056 LM F (4,94) = 1.97

Summary of Equation Properties

Static long-run solution:

Ln RROSSI = Ln RPCOST - Ln (1 - 0.01 RPTAX) + constant

Effect on RROSSI of a 1% increase in:

	Q1	Q5	Q9	Long-run
RPCOST	0.2380	0.8600	1.1100	1.0000
Consumption	0.0000	0.1600	0.2440	0.0000
Productivity	0.0000	0.2970	0.3680	0.0000

Comment

The specification assumes prices are a mark-up on costs. Short-term changes in retailers' margins are captured by the term for the change in consumption. Note that the change in productivity term implies that RROSSI is not dynamically homogenous with respect to productivity.

Further Documentation

MRG(94)14, MSG(95)9,MSG(95)15, MSG(95)18, MSG(95)29, MSG(97)15

No.	Name	Description	Unit	Source	Identifier
0706	DUTRPI	Average rate of duty on RROSSI	%	HMRC	-

Model equation: Technical Relationship

DUTRPI = [(1 + (0.333 * ZSWTE4

+ (1 - 0.333) * ZSWTCH g) (-1+(1+2g)PR/g^4(1+2g)*PR + 0.0329) * 0.74

+ (1 - 0.74) * ZSWTCH g ((1+2g)PR/g^4(1+2g)PR-1))]*gRROSSI*gDUTRPI/RROSSI

if T $\geq$ TZ (1996Q2)

Where ZSWTE4 = 0 if T < TZ (1994Q4)
ZSWTE4 = Q_4 if T $\geq$ TZ (1994Q4)
ZSWTCH = 0 if T < TZ (1995Q1)
ZSWTCH = Q_1 if T $\geq$ TZ (1995Q1)

No.	Name	Description	Unit	Source	Identifier
0707	ICOST	Investment Costs: I-O decompostion	Index	HMT	-

Model equation: Technical Relationship

ICOST = 0.517*ULCPS + 0.406*PMNOS + 0.077*APH

No.	Name	Description	Unit	Source	Identifier
0708	PR	Retail Prices Index (RPI)	Index	ONS	CHAW

Model equation: Technical Relationship

PR = 183.1* [(1 - 0.039) * PRXMIP / 181.4 + 0.039*PRMIP / 220.4]

Comment

This equation simply weights together the components of the RPI. Prior to 1987 the identifier for this variable is FRAG.

No.	Name	Description	Unit	Source	Identifier
0709	PINV	Inventories deflator	Index	HMT	-

Model equation: Technical Relationship

Ln PINV = 0.89295*Ln(PPIY) + 0.10393*Ln(PMNOS)
+ (1 - 0.89295 - 0.10393)*Ln(100*PBRENT)/(OILBASE*RXD))

Comment

The equation relates the inventories deflator to producer prices, import prices, and the world price of oil. Static homogeneity is imposed. There are currently no data on a time series basis for inventory levels at current and constant prices, the series was constructed by rescaling the constant price series and deriving the deflator appropriately.

No.	Name	Description	Unit	Source	Identifier
0710	PIF	Investment deflator (total GFCF)	Index	ONS	100* (NPQS/NPQT)

Model equation: Behavioural Equation

$$\text{Ln PIF} = g \text{ Ln PIF} - \underset{(1.9)}{0.0043*Q^{1}} - \underset{(3.3)}{0.124}*(g \text{ Ln } (PIF / ICOST) + \underset{(7.0)}{0.0021}*(T - 40))$$

$$+ (0.223\, g^{2} + 0.294\, g^{4})\,(1 - g) \text{ Ln PIF}$$

$$+ \underset{(2.8)}{(0.268 + (1.0 - 0.223 - 0.294 - 0.268)\, g)}\,(1 - g) \text{ Ln ICOST} + \underset{(2.8)}{0.0216}$$

ICOST = 0.517*ULCPS + 0.406*PMNOS + 0.077*APH

Estimation period: 1980Q1 to 2002Q4

$R^2 = 0.56$ Norm $CHI^2_2 = 3.17$

SE = 0.009 Hetero F(1,90) =2.24

R^2 = 0.56 Norm CHI^2_2 = 3.17
LM F (4,81) = 0.59

Summary of Equation Properties

Static long-run solution:

Ln PIF = Ln ICOST - .0021 Trend + constant

Effect on PIF of a 1% increase in:

	Q1	Q5	Q9	Long-run
Investment costs (ICOST)	0.2700	0.9200	1.1800	1.0000

Comment

The price of investment is assumed to be determined as a mark up over costs that are proxied by ULCPS, PMNOS and APH respectively. The weights on ULCPS and PMNOS were obtained from Input-Output tables. The weight on APH reflects the weight of investment in new buildings in total investment, with its cost being proxied by house prices. The time trend may reflect productivity differentials.

Further Documentation: MSG (95) 10

No.	Name	Description	Unit	Source	Identifier
0711	RPTAX	Average tax rate on RROSSI	%	HMT	-

Model equation: Technical Relationship

RPTAX = DUTRPI + 100 * 0.63 * TVAT

No.	Name	Description	Unit	Source	Identifier
0712	PRMIP	MIPs index in the RPI	Index	ONS	DOBQ

Model equation: Technical Relationship

PRMIP = [1.015* g PRMIP*RMORT (1 - TMIRAS)] / [g RMORT g (1 - TMIRAS)]

No.	Name	Description	Unit	Source	Identifier
0713	PRXMIP	RPI excluding MIPs	Index	ONS	CHMK

Model equation: Technical Relationship

PRXMIP = 189.4*(((1 - (0.045 + 0.039 + 0.044*ifge(199501))/(1 - 0.050)) *RROSSI)/177.4
+ (0.045*PRENT/273.6 + 0.039*PCT/268.1 + 0.044*HD/261.3)/(1 - 0.050))

Comment

Prior to 1987 the identifier for this variable is RYYW.

No.	Name	Description	Unit	Source	Identifier
0714	PXNO	AVI for exports of non-oil goods	Index	ONS	100* (BOKG-ELBL) /BQAN

Model equation: Behavioural Equation

DLn PXNO = - 0.118 1{g Ln PXNO - 0.56 g Ln PPIY - (1 - 0.56) g Ln (WPG/RXD) + 0.002*T }
(3.8) (4.4) (-) (7.6)

+ 0.84 (1 - g) Ln PPIY + (1 - 0.84) (1 - g) Ln (WPG/RXD) + 0.04*D931 + 0.063
(30) (-) (4.0) (4.1)

NB Left hand side is specified in 1st difference.

Estimation period: 1974Q2 to 2003Q3

R^2 = 0.76
SE = 0.0105
LM F (4,108) = 1.4
Norm CHI^2_2 = 0.4
Hetero F(1,90) = 0.06

Summary of Equation Properties

Static long-run solution:

Ln PXNO = 0.56*Ln PPIY + (1 - 0.56) * Ln (WPG/RXD) - 0.002 Trend + constant

Effect on PXNO of a 1% increase in:

	Q1	Q5	Q9	Long-run
Domestic prices (PPIY)	0.8400	0.7300	0.6600	0.5560
World prices (WPG/RXD)	0.1600	0.2700	0.3400	0.4440

Comment

The AVI for exports of non-oil goods is determined by domestic producer output prices and the world price of non-oil goods. The former captures domestic cost pressures. The latter is weighted according to shares of world trade and converted into domestic currency using the dollar/sterling exchange rate. The static and dynamic homogeneity restrictions were easily accepted by the data.

Further Documentation: MSG (95) 10, MSG (95) 17

No.	Name	Description	Unit	Source	Identifier
0715	ULCPS	Private Sector Unit Labour Costs	Index	HMT	-

Model equation: Technical Relationship

ULCPS = (0.1 * PSAVEI * TE * (EPS + EOIL)) / (0.01367 * GVA)

TE = 1 + (EMPSC + NIS) / WFP

No.	Name	Description	Unit	Source	Identifier
0716	PRENT	Rent component of the RPI	Index	ONS	DOBP

Model equation: Technical Relationship (Identity)

PRENT = [0.3257 PCE/g PCE + (1 - 0.3257) HRRPW/g HRRPW] g PRENT

Comment

The equation weights together local authority rents and private rents, which are assumed to grow in line with the consumers' expenditure deflator.

No.	Name	Description	Unit	Source	Identifier
0717	PXS	AVI for exports of services	Index	ONS	100* (IKBB/IKBE)

Model equation: Behavioural Equation

dlog(PXS) = 0.67*dlog(RROSSI) + (1 - 0.67)*dlog(PMNOS)
(-) (7.0)
- 0.156*(log(PXS(-1)) - log(RROSSI(-1))) - 0.794
(4.3) (4.3)
- 0.064*(ifeq(200103)-ifeq(200104)) - 0.063*(ifeq(200503)-ifeq(200504))
(5.9) (5.7)

Estimation period: 1971Q2 to 2005Q4

R^2 = 0.60 DW = 2.1
SE = 0.015

Summary of Equation Properties

Static long-run solution:

Ln PXS = Ln ROSSI + constant

Effect on PXS of a 1% increase in:

	Q1	Q5	Q9	Long-run
Domestic prices (ROSSI)	0.6700	0.8300	0.9200	1.0000
Import prices (PMNOS)	0.3300	0.1700	0.0850	0.0000

No.	Name	Description	Unit	Source	Identifier
0718	PMNOS	AVI for imports of non-oil goods and services	Index	ONS	100* (IKBI-ENXO) /JTEA

Model equation: Behavioural Equation

$$\text{Ln PMNOS} = \text{gInPMNOS} - 0.248\{\text{gLnPMNOS} - (1 - 0.496)*\text{gLnPPIY} - 0.496*\text{g Ln (WPG/RXD)}$$
$$(5.9) \qquad (4.3) \qquad (-)$$

$$+ 0.0028*T\} + 0.0459*\text{RCOM} + 0.696(1-g)\text{Ln PPIY} + 0.304(1-g)\text{ Ln (WPG/RXD)}$$
$$(14.4) \qquad (3.6) \qquad (-) \qquad (8.9)$$

$$+ \ 0.063 + 0.063*\text{DD784} - 0.0736*\text{D793}$$
$$(4.7) \quad (4.7) \qquad (5.4)$$

$$\text{Ln RCOM} = \ - \text{Ln WPG} + 1.13 \text{ Ln WPBM} + (1 - 1.13) \text{ Ln PBRENT}$$

Estimation period: 1974Q2 to 2003Q3

$R^2 = 0.666$	DW = 2.0
SE = 0.0131	Norm $CHI^2_2 = 12.3$
LM F (4,106) = 0.2	Hetero F(1,86) = 1.5

Summary of Equation Properties

Static long-run solution:

Ln PMNOS= 0.15*Ln RCOM + 0.5*Ln PPIY + 0.5*Ln (WPG/RXD) + constant

Effect on PMNOS of a 1% increase in:

	Q1	Q5	Q9	Long-run
Producer Output Prices (PPIY)	0.6960	0.5650	0.5240	0.5000
World prices in sterling (WPG/RXD)	0.3040	0.4340	0.4760	0.5000
World Price of Raw Materials (RCOM)	0.0406	0.1410	0.1710	0.1850

Comment

Prices are determined by domestic market conditions (proxied with PPIY), the world price of non-oil goods and the relative commodity intensity of UK imports (RCOM). A positive sign on RCOM indicates that the UK's manufactured imports use relatively more of that import, and a negative sign means they use less. Static and dynamic homogeneity are imposed.

Further Documentation: MSG(95) 5, MSG(95) 17

No.	Name	Description	Unit	Source	Identifier
0719	PMNOSX	AVI: imports of non-oil goods & services ex. MTIC	Index	ONS	*0719

Model equation: Technical Relationship

ratio(PMNOSX) = ratio(PMNOS)

No.	Name	Description	Unit	Source	Identifier
0721	CPI	Consumer Prices Index, 1996=100	Index	ONS	CHVJ

Model equation: Technical Relationship

CPI = G CPI * (0.952*RROSSI + (1 – 0.952) * PRENT) /
g (0.952*RROSSI + (1 – 0.952) * PRENT) - 0.0012

No.	Name	Description	Unit	Source	Identifier
0724	PSAVEI	Private Sector Average Earnings Index	Index	ONS	LNKY

Model equation: Behavioural Equation

$$\text{Ln PSAVEI} = g \text{ Ln PSAVEI} + \{0.575 + 0.141\, g + 0.096\, g^2 + 0.188\}\, g^3\, (1 - g) \text{ Ln PGVA}$$
(6.0) (1.6) (1.1) (-)

$$- 0.056\, (1 - g) \text{ Ln LFSUR} - 0.022\, g \text{ Ln LFSUR} + 0.377\, (1 - g) \text{ Ln PRODPS}$$
(2.7) (3.8) (3.9)

$$- 0.164\, g \text{ Ln [PSAVEI /(PRODPS PGVA)]} + 0.155 \text{ Ln UDEN}$$
(4.4) (3.3)

$$- 0.075\, g^3\, (1-g) \text{ Ln RETRA} - 0.164 \text{ Ln TE} + 0.0891\, (1-g) \text{ Ln (PRXMIP/ PGVA)}$$
(1.3) (3.7) (-)

$$- 0.0227 * \text{DUM7579} - 0.154$$
(4.6) (3.4)

RETRA = 1 - (TYEM + EENIC) /WFP
PRODPS = GVA / EPS
TE = 1 + (EMPSC + NIS) /WFP

Estimation period: 1972Q4 - 1999Q4

$R^2 = 0.72$
SE = 0.0081 Norm $CHI^2_2 = 2.92$
LM F (4,93) = 1.15 Hetero F(1,107) = 11.1

Summary of Equation Properties

Static long-run solution:

Ln PSAVEI = -0.0917*Ln LFSUR + Ln PRODPS + Ln PGVA + 0.95*Ln UDEN - Ln TE + C

Effect on PSAVEI of a 1% increase in:

	Q1	Q5	Q9	Long-run
GVA deflator (PGVA)	0.575	1.010	1.050	1.000
Unemployment (LFSUR)	-0.056	-0.096	-0.120	-0.130
Retention Ratio (RETRA)	0.000	-0.063	-0.031	0.000
Private sector productivity (PRODPS)	0.377	0.700	0.850	1.000
Union Density (UDEN)	0.155	0.560	0.760	0.950
PRXMIP / PGVA	0.089	0.044	0.021	0.000
Employers tax rate (TE)	-0.164	-0.590	-0.800	-1.000

Comment

This equation is based on the familiar Layard-Nickell model in which wages (but not employment) are set in a bargaining framework. The data was not supportive of long run effects from the tax and terms of trade wedges. Pressure of demand effects are captured by a term in the LFS measure of unemployment. This measure may be a better indicator of labour market pressure than the claimant count since it includes job seekers not in receipt of benefit but excludes benefit claimants who reply in the survey question that they are not actively searching for work.

No.	Name	Description	Unit	Source	Identifier
0725	ERCG	CG average earnings index, 2000=100	Index	ONS	NMAI/ C9K9(Q)
0726	ERLA	LA average earnings index, 2000=100	Index	ONS	NMJF/ C9KA(Q)

Model equations: Technical Relationships

ERCG = PSAVEI g^4 (ERCG/PSAVEI)
ERLA = PSAVEI g^4 (ERLA/ PSAVEI)

Comment

Both indices are derived by dividing wages and salaries by workforce jobs and rebasing to 2000. For both of these public sector earnings variables the forecasting equation suggests a growth path following that of the private sector. An appropriate residual setting can impose a positive or negative wage growth gap between the public and private sector as desired. See also the comment for V0702.

No.	Name	Description	Unit	Source	Identifier
0727	PCT	Rates/Community Charge RPI	Index	ONS	DOBR

Model equation: Technical Relationship

PCT = [Q1 + Q3 + Q4 + Q2*CC) / g^4 (CC - 0.01)] g PCT

Comment

The variable CC (V1029) measures council tax that is uprated in Q2.

No.	Name	Description	Unit	Source	Identifier
0731	HRRPW	LA gross rent per house per week (£)	£	HMT	-

Model equation: Technical Relationship

HRRPW = [Q1 + Q3 + Q4 + Q2*(1 + 0.05)*PGDP/g^4 PGDP] g HRRPW

Comment

The current value for HRRPW is last period's adjusted for the change in inflation, defined here by a small margin over the GDP deflator. Data for England and Wales from Housing Rent Statistics (CIPFA); for Scotland - Scottish Housing Statistics.

No.	Name	Description	Unit	Source	Identifier
0733	WPG	World price of goods	Index	IMF	-
0734	WPBM	World price of basic materials ($)	Index	HMT	-

Model equations: Exogenous variables

Comment

The world price of goods is the IMF advanced economy manufactures price and can be obtained from the IMF World Economic Outlook.

No.	Name	Description	Unit	Source	Identifier
0735	M14CP	Major 14 consumer prices	Index	HMT	-

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0736	APH	Average House Price	Index	ODPM	-

The data is from the ODPM website in Table 591 Housing market: Mix-adjusted house price index.

Model equation: Behavioural Equation

$$\begin{aligned}\text{Ln APH} = {} & g \text{ Ln (APH*PCE/ gPCE)} - \underset{(1.9)}{0.0351}\, g \text{ (Ln APH / PCE)} \\ & - \underset{(2.1)}{0.0416}\, g \text{ Ln ((100000 GPW) / (APH*OWC*C))} - \underset{(4.1)}{0.0008}\, g \text{ [RHF-400(1 - g) LnAPH]} \\ & + \underset{(3.8)}{0.262}\, g (1 - g) \text{ Ln } (g^3 \text{APH/PCE}) + \underset{(4.4)}{0.796}\, g (1 - g) \text{ Ln C} + \underset{(3.4)}{0.609}\, g^2 (1 - g) \text{ Ln C} \\ & + \underset{(3.4)}{0.0748}\text{*DUM723} - \underset{(1.1)}{0.0191}\text{*DUMAHP} + \underset{(2.0)}{0.12}\end{aligned}$$

Estimation period: 1971Q2 – 2002Q4

$R^2 = 0.57$
SE = 0.021
LM F (4,114) = 1.54
Norm $CHI^2_2 = 3.35$
Hetero F(1,125) = 0.36

Summary of Equation Properties

Static long-run solution:

Ln APH = Ln PCE - 1.19 Ln (100000 GPW/APH*OWC*C) - 0.022 (RHF - 400 (1 - g) LnAPH)

Effect on APH of a 1% increase in:

	Q1	Q5	Q9	Long-run
Consumer prices	1.000	1.000	1.000	1.000
Consumption	0.000	1.440	1.750	1.190
Housing wealth	0.000	-0.160	-0.330	-1.190
Owner occupation	0.000	0.160	0.330	1.190
Real interest rate on housing loans *	0.000	-0.003	-0.006	-0.020

* semi-elasticity

Comment

This equation is based on work carried out for the Treasury by the National Institute of Economic and Social Research. It may be interpreted as an inverted demand function. In the long run, real house prices adjust to equalise supply (proxied by the stock of personal sector physical wealth) and demand (captured by real consumption multiplied by the owner occupation rate). House prices are also affected by the real interest rate on borrowing for house purchase.

The chosen functional form explicitly links the measure of permanent income in the consumption function to that in the housing demand function to ensure consistency in personal sector

behaviour. The equation displays both static and dynamic homogeneity with respect to consumer prices.

There is considerable overshooting with respect to consumption, due to powerful dynamic terms. However, the single equation rational lag analysis must be interpreted with some caution due to the highly endogenous nature of house prices in the model.

Further Documentation: GES Working Paper No.123

No.	Name	Description	Unit	Source	Identifier
0737	RHF	Interest rate on housing finance	%	HMT	-

Model equation: Technical Relationship

RHF = RMORT * (1 – TMIRAS * FC) - FD

FC = 0.25 * (1 - 0.001 * LHP/GPW) + 0.00073 * LHP/GPW
FD = (1 - 0.25 * TPBRZ) * (RMORT - RDEP) (1 – 0.001 * LHP/GPW)

Comment

This specification reflects the interest costs of borrowing mortgage funds and the opportunity cost of housing equity. The coefficient on the proportion of mortgage debt eligible for tax relief had been set at a constant of 0.73. However, with the abolition of MIRAS the variable TMIRAS is zero from 2000Q2. The effective rate of return on alternative investments varies considerably, ranging from full taxation of conventional gilts to tax subsidies on savings for pensions. However, some evidence on effective rates of return suggested a differential of around 1/2 per cent on investments with an assumed nominal pre-tax return of 8 per cent per year. Thus the effective tax rate is 6.25 per cent or 0.25 times the basic rate. The proportion of mortgage borrowing in total housing finance is calculated in stock terms, i.e. the ratio of the stock of mortgage lending to gross physical wealth.

No.	Name	Description	Unit	Source	Identifier
0738	OWC	Owner occupancy rate	%	ODPM	-

Model equation: Exogenous variable

Comment: Table 8.1, Housing Statistics Annual Volume.

No.	Name	Description	Unit	Source	Identifier
0739	UDEN	Union density (constant from 1980q4)	%	HMT	-

Model equation: Exogenous variable

Comment

This is sourced from the Department of Employment Gazette but is set constant from 1980Q4, it is likely that this variable proxies structural changes in the labour market prior to this date.

No.	Name	Description	Unit	Source	Identifier
0741	TAX	Tax component of RPCOST, 2001=100	Index	HMT	-

Model equation: Technical Relationship

TAX = 100 [60 TPROD / 4113 + 40 TXFUEL / 5511.5] / (.000454 GVA)

No.	Name	Description	Unit	Source	Identifier
0742	HD	Housing depreciation index in RPI	Index	ONS	CHOO

Model equation: Technical Relationship

HD = g HD * APH / g APH

if T $\geq$ TZ (1995Q2)

Comment: Housing depreciation was introduced into the RPI in February 1995.

GROUP EIGHT: THE NORTH SEA

In this group, production and trade is considered at an aggregate level. Trade flows of oil in volume terms are determined by assuming that exports, XOIL, can be modelled as a fixed proportion of output of North Sea oil. Import volumes, MOIL, are determined as the residual of the demand and supply identity i.e. the equation is essentially one for net oil trade.

No.	Name	Description	Unit	Source	Identifier
0801	TDOIL	Total domestic demand for oil	£M, CVM	ONS	UJAD+BPIX-BOXX

Model equation: Behavioural Equation

$$\text{Ln TDOIL} = g \text{ Ln TDOIL} - \underset{(4.6)}{0.22} * g \text{ Ln (TDOIL / NNSGVA)} - \underset{(3.2)}{0.051} * \text{Ln (PBRENT/ (P*RXD))}$$

$$+ \underset{(2.1)}{1.06}\, g\,(1 - g) \text{ Ln NNSGVA} - \underset{(3.9)}{0.0014}*\text{TIME} + \underset{(2.4)}{0.081}*\text{CODUM} - \underset{(4.1)}{0.59} - \underset{(4.6)}{0.23}*\text{DD861}$$

$$P = \text{(GDPM£ - BPA£ - NSGVA * PBRENT / (17.68 * RXD)) / (NNSGVA)}$$

Estimation period: 1972Q1 to 2005Q3

$R^2 = 0.34$
SE = 0.069
LM F (4,124) = 1.87
Normality $CHI^2_2 = 4.0$
Hetero F (1,133) = 0.17

Summary of Equation Properties

Static long-run solution:

$$\text{Ln TDOIL} = \text{Ln NNSGVA} - 0.22*\text{Ln (PBRENT/ (P*RXD)} - 0.0014 \text{ TIME}$$

Elasticity of TDOIL with respect to a 1% increase in:

	Q1	Q5	Q9	Long-run
Relative Prices (P)	-0.000	-0.160	-0.200	-0.220
Output (NNSGVA)	0.000	1.130	1.050	1.000

Comment

This equation models domestic demand for oil in terms of the relative price of oil, an activity indicator (Non-North Sea GVA) and a negative time trend to capture greater technological efficiency in the use of oil. The time trend implies an exogenous reduction in the demand for oil of about 0.6% per annum.

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No.	Name	Description	Unit	Source	Identifier
0802	NSGVA	GVA in North Sea oil & gas extraction	£M, CVM	ONS	UJAD

Model equation: Exogenous variable

Comment: The Department for Trade and Industry produce medium-term projections for oil output.

No.	Name	Description	Unit	Source	Identifier
0803	XOIL	Exports of oil (volume)	£M, CVM	ONS	BOXX

Model equation: Technical Relationship

XOIL = 0.80*NSGVA

Comment: Oil exports are calibrated as an exogenous proportion of output.

No.	Name	Description	Unit	Source	Identifier
0804	PXOIL	AVI for exports of oil	Index	ONS	100* (ELBL/BOXX)

Model equation: Technical Relationship

Ln PXOIL = Ln [100 * PBRENT/ (16.98 * RXD)]

No.	Name	Description	Unit	Source	Identifier
0805	MOIL	Imports of crude oil and oil products	£M, CVM	ONS	BPIX

Model equation: Technical Relationship

MOIL = TDOIL + XOIL - NSGVA

Comment: Determined as a residual given domestic demand, exports and North Sea GVA.

No.	Name	Description	Unit	Source	Identifier
0806	PMOIL	AVI for imports of oil	Index	ONS	100* (ENXO/BPIX)

Model equation: Technical Relationship

Ln PMOIL = Ln [100 * PBRENT/ (16.98 * RXD)]

No.	Name	Description	Unit	Source	Identifier
0807	NSGTP	North Sea Gross Trading Profits: PNFCs	£M	ONS	CAGD

Model equation: Technical Relationship

NSGTP = NSGVA * PBRENT / (OILBASE * RXD)

No.	Name	Description	Unit	Source	Identifier
0809	PBRENT	Brent crude oil price ($ per barrel)	$	DST	OILBREN

Model equation: Exogenous variable

GROUP NINE: PUBLIC SECTOR EXPENDITURE

This group deals with the expenditure side of the public sector accounts, separately identifying CG and LA expenditures on wages and salaries, procurement, capital formation and subsidies and grants. It also contains the equations for public sector debt interest payments and equations for CG and LA employment. Most public expenditure variables are non-seasonally adjusted.

No.	Name	Description	Unit	Source	Identifier
0901	CGWS	CG compensation of employees	£M	ONS	QWPS

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0902	PCOTC	Payable company tax credits	£M	ONS	MDXH

Model equation: Exogenous variable

Comment: Scored as public spending (subsidies on production in the National Accounts), see also the comment for V0954.

No.	Name	Description	Unit	Source	Identifier
0903	CGP	CG procurement expenditure	£M	ONS	QWPT

Model equation: Exogenous variable

Comment

Procurement is defined as all current expenditure on goods and services other than pay. It includes the purchase of all goods and services other than fixed assets and stocks, including the purchase of services from NHS trusts. Procurement excludes expenditure on dual use military equipment that under ESA95 is classified as fixed capital formation. It also excludes expenditure on further and higher education colleges.

No.	Name	Description	Unit	Source	Identifier
0904	LASUBP	LA subsidies on products	£M	ONS	ADAK-LIUC

Model equation: Technical Relationship

LASUBP = g LASUBP * PGDP / g PGDP

No.	Name	Description	Unit	Source	Identifier
0905	NPACG	CG net acquisitions of non-produced non-financial assets	£M	ONS	NMFG

Model equation: Technical Relationship

NPACG = g NPACG

Comment: Non-produced non-financial assets are typically land.

No.	Name	Description	Unit	Source	Identifier
0906	CGI£	Total Central Government GFCF	£M	ONS	NMES

Model equation: Exogenous variable

Comment

Central Government gross fixed capital formation (GFCF) comprises the acquisition of fixed assets, both tangible and intangible. Tangible assets include buildings and other structures, machinery and equipment (including vehicles) and cultivated assets. Intangible assets include computer software. Under the new accounting system, dual use military equipment (ie purchases of capital that could have a civilian use, eg hospitals and their equipment, airfields and buildings) is now scored as capital formation. GFCF is net of the sale of assets whose acquisition is considered to be fixed capital formation. It does not allow for capital depreciation (V0924) nor does it include the sale of special assets, i.e. privatisation of public utilities. Investment by NHS trusts was scored as public corporations investment but would now be included in the CG total.

No.	Name	Description	Unit	Source	Identifier
0907	CGTSUB	Total subsidies paid by CG	£M	ONS	NMCD

Model equation: Technical Relationship (identity)

CGTSUB = CGSUBP + CGSUBPR

Comment: Subsidies on products and production, GVA at basic prices excludes only the former.

No.	Name	Description	Unit	Source	Identifier
0908	CGSB	CG net social benefits to households	£M	ONS	GZSJ

Model equation: Technical Relationship

$$CGSB = LCGRPE + CSS + WFTCPE + 7.25*0.013*UPRAT*KID + [(0.4537*0.116 + 0.5668)*(1+0.7)*NOPENS + 702.5] * MRATE + MILAPM + MILAPME + VTRCS + WTCCTC$$

$$MRATE = 0.25*(1 + g + g^2 + g^3)*UPRAT + 0.375*(Q2 + Q3g + Q4g^2 + Q1g^3)\ (1 - g)*UPRAT$$

Comment

Under ESA95 CG social benefits includes social security benefits in cash, unfunded social benefits and social assistance benefits in cash which includes income tax reliefs such as mortgage interest relief, life assurance premium relief, working families tax credit and the working and children's tax credits.

The first term of this equation represents current grants expenditure on selective employment measures and other non-social security current grants. The second term in the equation represents cyclical social security payments. The third term represents child benefit, the co-efficient 7.25 is the weekly rate of child benefit in the base year (1989/90).

The fourth term represents benefits to those other than the unemployed. The coefficient 0.116 is the proportion of pensioners on income support and 0.5668 is the quarterly rate of a single person's pension. 0.26 represents other state benefits as a proportion of single person pensions. Other state benefits, which include invalidity benefit and attendance allowance, accrue mainly to those of pensionable age and thus can be aggregated and expressed as a fraction of pensioner benefits. The constant term, 702.5, represents other benefits that are not explicitly identified e.g. statutory sick and maternity pay. The uprating factor MRATE is designed to give a smooth quarterly path through the financial year.

The final term represents tax reliefs that under ESA95 score as public expenditure.

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No.	Name	Description	Unit	Source	Identifier
0909	UPRAT	Uprating factor for non-cyclical social security benefits	Index	HMT	-

Model equation: Technical Relationship

$$UPRAT = g\ UPRAT\ g^2\ [Q1 + Q3 + Q4 + Q2\ ((1 + 2g)\ PR)/(g^4\ (1 + 2g)\ PR)]$$

Comment

The Department for Work and Pensions publishes the factors used for benefit upratings in the Departmental Report.

No.	Name	Description	Unit	Source	Identifier
0910	DIPNSC	Debt interest payments on Natl Savings	£M	ONS	XACX

Model equation: Technical Relationship

DIPNSC = g DIPNSC + [0.4 * y(RNS) + 0.5 * y(RNS/ (1 - TPBRZ))

+ 0.1 * (1 - g) PR/ g PR] g (1 - g) * NATSAV

+ g^2 NATSAV[{g (1 - g) y(RNS/(1 - TBPRZ))/ 2.5}+ 0.16 (1 - g) {(1 - g) PR /g PR}]

Comment

The equation for interest on National Savings uses a flow type specification covering both ordinary instruments and index linked issues. The equation is structured so that interest in period t equals interest in the previous period plus interest on new stock plus the change in interest on existing variable rate stock, plus the change in interest on existing index-linked stock.

The lagged dependent variable captures the previous period's interest. The interest on issues comprises interest on conventional issues, half of which attracts tax at the standard rate and interest on indexed National Savings, which are assumed to be about 10 per cent of the total. Forty per cent of the stock of national savings is assumed to be floating rate. The third term in the equation captures the change in interest on floating rate products. The final term captures the change in the accrued uplift on index-linked stock.

No.	Name	Description	Unit	Source	Identifier
0911	DIPLDC	Debt interest payments on conventional gilts	£M	ONS	CUEM-CMSU

Model equation: Technical Relationship

DIPLDC = g DIPLDC - g REDOTH
+ g y [1.0*RL + 0.0*RS] g (REDGILT + dGILT - dILGILT)

Comment

This is the main debt interest flow of central government. Since these issues are fixed coupon instruments, the equation uses a first difference specification. This relates interest payments to gilt sales. A weighted average of long and short rates acts as a proxy for the coupon rate on conventional gilts. These weights can be adjusted to reflect the slope of the yield curve and expected maturity of gilt issues.

No.	Name	Description	Unit	Source	Identifier
0912	DICGOP	Total CG debt interest payments to persons and overseas	£M	ONS	NMFX

Model equation: Technical Relationship

DICGOP = DIPNSC + DIPLDC + IILG + ILGUP
+ ((1 + (RS - 0.14) /100) ^ .25 - 1) * CGOD

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+ ((1 + (RS - 0.43) /100) ^ .25 - 1) * TBILLS
+ ((1 + (RS + 0.26) /100) ^ .25 - 1) * FLOATER(-1)
+ ((1 + (RS - 2.47) /100) ^ .25 - 1) * TXCERT(-1)
+ ((1 + (RS + 0.43) /100) ^ .25 - 1) * (FLEASGG - 70)
+ DITHER ;
```

Comment:

This equation aggregates the major elements of central government debt interest payments and adds terms that represent payments on Treasury Bills. Interest on foreign currency debt is captured by the equation's residual.

No.	Name	Description	Unit	Source	Identifier
0913	IILG	Debt interest on index-linked gilts	£M	ONS	CMSU

Model equation: Technical Relationship

IILG = IILG(-2)*PR(-3)/PR(-5) + 2*((1 + RILG(-1)/100)^0.25 - 1)*dILGILT(-1)

Comment

Central Government disbursements on index-linked gilts have two components: the interest payment itself (IILG), and the accrued uplift (ILGUP, V0962). Interest payments are modelled using an equation in differences. The first term represents revaluations (IILG) of last quarter's interest payments, made at six-monthly intervals, in line with the RPI, whilst the second represents interest on the net new issue. RILG is the interest rate on new issues (V1407).

No.	Name	Description	Unit	Source	Identifier
0914	AEG	Aggregate External Finance from CG to LA (inc. NNDR grant)	£M	HMT	-

Model equation: Technical Relationship

AEG = 0.8 * [LATSUB + 0.068 * LASBHH – 0.75 * LAVAT + 0.987 * (LAWS + LAPR) + 0.525 * (DILAPR + DILACG + DILAPC) – 1.3 * DIRLA]

Comment

This equation has been specified in order that one can differentiate between National Non-Domestic Rate grant and NNDR receipts. This equation used to be programmed with a time switch to cope with the regime shift.

No.	Name	Description	Unit	Source	Identifier
0915	LALEND	LA net lending to personal sector	£M	ONS	ADDU

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0916	KLA	LA capital grants	£M	ONS	NMNL

Model equation: Technical Relationship

$$KLA = PIF\ g^4\ (KLA/PIF)$$

No.	Name	Description	Unit	Source	Identifier
0917	CGCGLA	Total CG grants to LAs'	£M	ONS	QYJR

Model equation: Technical Relationship

$$CGCGLA = AEG + (0.25 * PR/\ g^4PR + 0.75*PRENT/\ g^4PRENT) * 1.024\ g^4\ (CGCGLA - AEG)$$

Comment

Total CG current grants to LAs are modelled as the sum of the Aggregate External Finance and non-AEF grants. The main non-AEF grants are in respect of housing benefit, council tax benefit and mandatory student awards. The non-AEF grants are uprated in line with a weighted sum of the RPI and its housing component.

No.	Name	Description	Unit	Source	Identifier
0918	LASBHH	LA social benefits to households	£M	ONS	GZSK

Model equation: Technical Relationship

$$LASBHH = (0.25 * PR/\ g^4PR + 0.75 * PRENT/\ g^4PRENT) * 1.047\ g^4LASBHH$$

Comment

The main LA current grants to households are housing benefit and mandatory student awards. Most housing benefit is financed by grant from central government but an increasing proportion is financed from the housing revenue account. All mandatory student awards are financed by central government grant.

No.	Name	Description	Unit	Source	Identifier
0919	KCGLA	Capital grants by CG to LA's	£M	ONS	NMGR+NMGT

Model equation: Technical Relationship

KCGLA = PIF g4 (KCGLA / PIF)

No.	Name	Description	Unit	Source	Identifier
0920	LAMISE	LA miscellaneous expenditure	£M	ONS	LSIB

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0921	ECNET	Net EC contributions (BoP basis)	£M	ONS	-FKKL-FKIJ

Model equation: Technical Relationship

ECNET = [1 - 0.5 (g ECUPO/ECUPO - 1)] g ECNET

No.	Name	Description	Unit	Source	Identifier
0922	TROD	Government non-EC transfer debits	£M	ONS	FJUO-FJCK -HCSO-HCSM

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0923	UPLIFT	Uprating factor for cyclical Social security benefits	Index	HMT	-

Model equation: Technical Relationship

UPLIFT = g^2 (Q1 + Q3 + Q4 + (1 + 2g)* PRAV* Q2/g^4 (1 + 2g)* PRAV) * g UPLIFT

if T $\geq$ TZ (1990Q2)

PRAV = 0.15 PR + 0.85 RROSSI

No.	Name	Description	Unit	Source	Identifier
0924	RCGIM	CG non-trading capital consumption	£M	ONS	NSRN

Model equation: Exogenous variable

Comment

Non-trading capital consumption is added to current expenditure on goods and services to arrive at the measure of final consumption, representing the total cost of providing central government services as measured by the National Accounts.

No.	Name	Description	Unit	Source	Identifier
0925	NOPENS	Number of pensioners (inc. widows)	000s	ONS	BDAE

Model equation: Exogenous variable (see V0908)

No.	Name	Description	Unit	Source	Identifier
0926	KCGPSO	Capital grants paid by CG to Private Sector and overseas	£M	ONS	ANNI

Model equation: Technical Relationship

KCGPSO = PIF * g^4 (KCGPSO / PIF)

Comment

Capital grants are defined as unrequited payments regarded as paid into the capital accounts of recipients to finance capital expenditure, usually fixed capital formation. This variable comprises capital grants to the private and overseas sector e.g. the Fossil Fuel Levy is scored as a capital grant. CG capital grants to LAs are scored in KCGLA (V0919) while KCGPC (V01209) scores capital grants to PCs.

No.	Name	Description	Unit	Source	Identifier
0927	ECG	CG non-trading employment (WFJ)	000s	ONS	CULX(Q)

Model equation: Technical Relationship (freely estimated 64Q3-05Q3).

Ln ECG = 0.276* Ln CGG + 4.8035

Comment

Employment in central government is defined to include the following: HM Forces, NHS and other (approximately the Civil Service). Data need to be calculated manually when there are sectoral changes to prevent the switch being spread over two quarters.

No.	Name	Description	Unit	Source	Identifier
0928	LAWS	LA compensation of employees	£M	ONS	QWRY
0929	LAPR	LA expenditure on procurement	£M	ONS	QWRZ-NMKK
0930	LAI£	LA investment expenditure	£M	ONS	NMOA

Model equation: Exogenous variables

No.	Name	Description	Unit	Source	Identifier
0931	DILAPR	LAs debt interest payments to the Private Sector and overseas	£M	ONS	NUGW

Model equation: Technical Relationship

DILAPR = y [0.8*RS + (1 - 0.8)*RL - 0.3] * g SLAB

Comment

Interest payments by local authorities to central government and public corporations are separately identified (V0944 and V0961). A high proportion of LA market debt is at variable interest rates. The equation therefore uses a levels specification in which the interest payments are modelled by taking the stock of LA debt outstanding and multiplying this by the appropriate interest rate.

No.	Name	Description	Unit	Source	Identifier
0932	PCLEB	PCs investment in land and existing buildings	£M, CVM	ONS	DLWH

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0933	NPALA	LA net acquisitions of non-produced non-financial assets	£M	ONS	NMOD

Model equation: Technical Relationship

NPALA = g NPALA

No.	Name	Description	Unit	Source	Identifier
0934	ELA	LA non-trading employment (WFJ)	000s	ONS	CUAN(Q)

Model equation: Technical Relationship (freely estimated 93Q1-05Q3).

Ln ELA = 0.270 *Ln CGG + 5.024

Comment

Data need to be calculated manually where there are sectoral changes, like the transfer of Further Education colleges to household sector (April 1993).

No.	Name	Description	Unit	Source	Identifier
0935	CGSUBP	CG subsidies on products	£M	ONS	NMCB

Model equation: Technical Relationship

CGSUBP = g CGSUBP PGDP / g PGDP

No.	Name	Description	Unit	Source	Identifier
0936	CGSUBPR	CG subsidies on production	£M	ONS	NMCC

Model equation: Technical Relationship

CGSUBPR = PCOTC + RLCOTC + g (CGSUBPR – PCOTC – RLOTC) PGDP / g PGDP

No.	Name	Description	Unit	Source	Identifier
0937	LASUBPR	LA subsidies on production	£M	ONS	LIUC

Model equation: Technical Relationship

LASUBPR = g LASUBPR PGDP / g PGDP

No.	Name	Description	Unit	Source	Identifier
0938	CGOTR	Other current grants	£M	ONS	NMFC

Model equation: Technical Relationship

CGOTR = GNP4 + GDPM£ g (CGOTR - GNP4)/g GDPM£

Comment

Under ESA95 this variable includes grants to institutions of further and higher education, grants to fund NHS pension increases (CGTPC) and the GNP fourth own resource (GNP4).

No.	Name	Description	Unit	Source	Identifier
0939	KID	No. of children receiving child benefit	000s	ONS	BDAH

Model equation: Exogenous variable

Comment

One of the key variables for CG social benefits (see V0908). Recent data are sourced from Inland Revenue and then linked to data using the ONS identifier BDAH that refers to Gt Britain only.

No.	Name	Description	Unit	Source	Identifier

0940	RLAIM	LA non-trading capital consumption	£M	ONS	NSRO

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0941	LATSUB	Total LA subsidies	£M	ONS	ADAK

Model equation: Technical Relationship (Identity)

LATSUB = LASUBP + LASUBPR

Comment

The main type of subsidies are for transport and economic development. Up until 1989-90 local authorities also subsidised council house rents.

No.	Name	Description	Unit	Source	Identifier
0942	CGMISP	CG miscellaneous payments	£M	ONS	ANRS-ABIF

Model equation: Exogenous variable

Comment

The variable represents the difference between the public expenditure concept of Privatisation Proceeds and the National Accounts measure of Cash Expenditure on Company Securities.

No.	Name	Description	Unit	Source	Identifier
0943	DICGPC	CG debt interest payments to PCs	£M	ONS	GVHH-CPBA-GVHG

Model equation: Exogenous variable

Comment

This variable includes payments to PCs under the Exchange Cover Scheme. Since the privatisations of the 1980s these payments are now negligible. This variable also includes payments on PCs' holdings of CG debt.

No.	Name	Description	Unit	Source	Identifier
0944	DILACG	LA debt interest payments to CG	£M	ONS	GVHA

Model equation: Technical Relationship

DILACG = 0.985* g DILACG + y(0.09* RS + 0.93* RL + 0.5) g [(1 + 0.015) - g] SLCGLA

Comment

Almost all of LA borrowing from central government is from the Public Works Loan Board and is fixed rate. This is captured by the lagged dependent variable. However, 1.5 per cent of the total is assumed to be rolled over each quarter, and this is captured, along with the interest on new debt, by the term in the stock of borrowing, SLCGLA, times the interest rate.

No.	Name	Description	Unit	Source	Identifier
0945	DIPCCG	PC debt interest payments to CG	£M	ONS	GVHC-ZYHY

Model equation: Technical Relationship

DIPCCG = g DIPCCG + 0.2* g^2 SPCBCG (1 - g) y (RS) + y RL *g (1 - g) SPCBCG

Comment

Most PC debt is fixed rate, and this is captured by the lagged dependent variable. The second term captures the change in interest on floating rate debt. The third term captures the interest on new debt.

No.	Name	Description	Unit	Source	Identifier
0946	SLCGLA	Stock of LA debt held by CG	£M	ONS	ADHC+ADKF +ADKE

Model equation: Technical Relationship

SLCGLA = g SLCGLA + LCGLA

No.	Name	Description	Unit	Source	Identifier
0947	DIPCLA	PC debt interest payments to LAs	£M	ONS	GVHD-ZYHZ
0948	DICGLA	CG debt interest payments to LAs	£M	ONS	NUHC

Model equation: Exogenous variables

No.	Name	Description	Unit	Source	Identifier
0949	LASC	LA social contributions	£M	ONS	GCMN

Model equation: Technical Relationship

LASC = 0.0040250*WFP

No.	Name	Description	Unit	Source	Identifier
0950	NPRIVP	Net privatisation proceeds	£M	ONS	-ABIF

Model equation: Exogenous variable

Comment: Includes sales of debt.

No.	Name	Description	Unit	Source	Identifier
0951	LCGOS	CG net lending overseas	£M	ONS	HEUC

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0952	LCGPR	CG net lending to the Private Sector	£M	ONS	ANRH-HEUC

Model equation: Exogenous variable

Comment: The main component is student loans. Sales of debt are scored as privatisation proceeds.

No.	Name	Description	Unit	Source	Identifier
0953	ILGCSH	Index-Linked Gilts Cash uplift	£M	ONS	NMRB-NMQZ

Model equation: Exogenous variable

Comment: This represents the payment of the accrued interest on index-linked gilts on redemption.

No.	Name	Description	Unit	Source	Identifier
0954	RLCOTC	Reduced liability company tax credits	£M	ONS	JPPT-MDXH

Model equation: Exogenous variable

Comment: Scored as public spending (subsidies on production) in the National Accounts.

No.	Name	Description	Unit	Source	Identifier
0955	WFTCNT	WFTC scoring as negative tax	£M	ONS	LIBJ-MDYM

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0956	KPSCG	Capital grants from Private Sector to CG	£M	ONS	ANNN

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0957	REDOTH	Interest on gilts redeemed & other flows	£M	HMT	-

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0958	LAOTRHH	LA other transfers to households	£M	ONS	EBFE

Model equation: Exogenous variable

Comment: Local authority other transfers to households (e.g. NNDR refunds)

No.	Name	Description	Unit	Source	Identifier
0959	LANNDR	LA payments of NNDR	£M	ONS	CQOQ

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0961	DILAPC	LA debt interest payments to PCs	£M	ONS	CPBA

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0962	ILGUP	Accrued uplift on index-linked gilts	£M	ONS	NMRB

Model equation: Technical Relationship

ILGUP = REVIG8(-1)*(RPI8 - 1) + REVIG3(-1)*(RPI3 - 1)

*W RPI8 = (2/3*PR(-2) + 1/3*PR(-3))/(2/3*PR(-3) + 1/3*PR(-4)) ; {8m lag uplift}
*W RPI3 = (2/3*PR + 1/3*PR(-1))/(2/3*PR(-1) + 1/3*PR(-2)) ; {3m lag uplift}

Comment

This equation applies the uplift factor defined in terms of the RPU to the previous periods revalued stock of index-linked gilts. The first index-linked gilts were issued in 1980 and recently around 25 per cent of gross gilt issues have been index-linked. As a result an increasing proportion of central government debt is index linked, and so the accrued uplift has become an important variable.

No.	Name	Description	Unit	Source	Identifier
0963	CSS	Cyclical Social Security	£M	ONS	ABBV

Model equation: Technical Relationship

$$CSS = [0.15 * 0.4511 + (1 - 0.15) * 0.4537]$$

$$[1.36 * U + 1000 * \exp\{- 0.869 + 0.106 * (\min (T - 33, 73)/4 + 0.375)\}] * MRATE1$$

$$MRATE1 = 0.25*(1 + g + g^2 + g^3)\ UPLIFT + 0.375 * (Q2+Q3g+Q4g^2+Q1g^3)\ (1 - g) * UPLIFT$$

Comment

Cyclical Social Security consists of unemployment benefit and income support paid to all claimants except the elderly. This equation was estimated on annual data (1978 - 1991) with a quarterly form being subsequently calculated. The unemployment effect of £325m in (1993-94 prices) for every extra 104,00 unemployed has been imposed. The trend growth rate of cyclical social security was freely estimated. MRATE1 uprates benefit expenditure in line with the published uprating factor. It is defined in such a way as to ensure a smooth quarterly path.

No.	Name	Description	Unit	Source	Identifier
0964	GNLDF	Lottery financed expenditure	£M	ONS	CJSW

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0965	LANDRAA	LA NNDR accruals adjustment	£M	ONS	CULD-CCXN

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0967	WFTCPE	WFTC scoring as public expenditure	£M	ONS	LIBJ

Model equation: Technical Relationship

WFTCPE = g WFTCPE PRAV / g PRAV

PRAV = 0.15 PR + (1-0.15) RROSSI If T $\geq$ 2003Q2

Comment: Working Families Tax Credits paid to non-taxpayers

No.	Name	Description	Unit	Source	Identifier
0968	ASSETSA	Fixed asset sales by Public Sector	£M	HMT	-

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0969	EUVAT	VAT payments to the EU	£M	ONS	HCML+FSVL

Model equation: Technical Relationship

EUVAT = 0.0325 * VREC / (0.8267 * g^4 ECUPO)

No.	Name	Description	Unit	Source	Identifier
0970	OSGG	GG Gross Operating Surplus	£M	ONS	NMXV

Model equation: Technical Relationship (Identity)

OSGG = RCGIM + RLAIM

No.	Name	Description	Unit	Source	Identifier
0971	EESCLA	Employee contributions to LA unfunded pension schemes	£M	ONS	NMWM

Model equation: Technical Relationship

EESCLA = 0.001271 * WFP

No.	Name	Description	Unit	Source	Identifier
0972	CONACC	Accruals adj on conventional gilts	£M	ONS	-GCSW-GCMR

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
0973	TME	Total Managed Expenditure	£M	ONS	ANLT+ANNZ-ANNW

Model equation: Technical Relationship (Identity)

TME = PSCE + DEP + PSNI

No.	Name	Description	Unit	Source	Identifier
0974	CGASC	CG actual social contributions	£M	ONS	GCMP

Model equation: Technical Relationship

CGASC = 0.01097 * WFP

Comment

These are actual contributions by central government to notional and unfunded pension schemes: as compared with imputed social contributions (see comment for V1033).

No.	Name	Description	Unit	Source	Identifier
0976	CGNCGA	CG net current grants abroad	£M	ONS	GZSI

Model equation: Technical Relationship

CGNCGA = ECNET + TROD

No.	Name	Description	Unit	Source	Identifier
0977	CGSTOCK	CG net capital Stock, all fixed assets	£Bn	ONS	CIXK

Model equation: Technical Relationship

*W DEPDEL = (TFE£/TFE)/(TFE£(-1)/TFE(-1))
*P CGDEP = 0.0072118

CGSTOCK = (1 - CGDEP)*(CGSTOCK(-1)*DEPDEL + CGI£)

No.	Name	Description	Unit	Source	Identifier
0978	LASTOCK	LA net capital Stock, all fixed assets	£Bn	ONS	CIXL

Model equation: Technical Relationship

LASTOCK = (1 - LADEP)*(LASTOCK(-1)*DEPDEL + LAI£)

No.	Name	Description	Unit	Source	Identifier
0985	DITHER	Other CG debt interest	£M	HMT	-

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier

0986	LANCGA	LA Net Current Grants Abroad	£M	ONS	C626

Model equation: Exogenous variable

GROUP 10: PUBLIC SECTOR RECEIPTS

This is a large group that covers all taxes, National Insurance Contributions and debt interest receipts. Virtually all of the equations for receipts are classified as technical relationships, reflecting the view that taxes are involuntary.

No.	Name	Description	Unit	Source	Identifier
1001	TSD	Stamp Duty receipts	£M	ONS	ACCI

Model equation: Technical Relationship

TSD = [0.76 * EQPR/ g EQPR + 0.24 * PD * APH/ (g PD *g APH)] * gTSD

Comment

This variable aggregates stamp duty on shares and on land and property. The equation is a quasi-technical relationship that is driven by equity prices and housing turnover.

No.	Name	Description	Unit	Source	Identifier
1002	TYEM	Accruals of tax on employment income	£M	ONS	DBBO

Model equation: Technical Relationship

TYEM = TEY + PART

Where:

1. TAXES ON EMPLOYMENT INCOMES (TEY)

TEY = [WTX (TPAL) * TPLR

+ WTX (LRB + TPAL) * (TPBRZ - TPLR)

+ WTX (LRB + BRB + TPAL) * (TPHR – TPBRZ)] * WFP

Ln (WTX(X)) = -3 * X/W + Ln [1 + 2 * X/W + 1.5 * $(X/W)^2$]

W = 1000 * WFP/ (ET - ES)

2. TAXES ON BENEFITS: PENSIONS, INCOME SUPPORT, STATUTORY SICK PAY AND UNEMPLOYMENT BENEFIT (PART)

PART = [0.46 * 0.5668 * NOPENS * MRATE – 1.989 * TPAL

+ (0.1 * 702.5 * MRATE – 0.0375 * TPAL) * ALPH2

- ((0.1896 + 0.7219) * TPAL - (0.332 *(0.8 * 702.5 +

+ ((1 - 0.3)* U + 0.16*NOPENS)*0.4537)+0.3*0.4511*U)*MRATE)* BETA2]

* TPBRZ

MRATE = $0.25^* (1 + g + g^2 + g^3)$ *UPRAT + $0.375^* (Q2+Q3g + Q4g^2 + Q1g^3)$ *(1 - g) UPRAT

TPAL = TPALA if T < TZ (1994Q2)
TPALA = 0.3820 * TPMCA + 0.976 * TPSNA + 0.039 * TPAG

TPAL = TPALB if T ≥ TZ (1994Q2)
TPALB = 0.3056 * TPMCA + 0.976 * TPSNA + 0.039 * TPAG

ALPH2 = 0 if T < TZ (1983Q2)
ALPH2 = 1 if T ≥ TZ (1983Q2)

BETA2 = 0 if T < TZ (1982Q3)
BETA2 = 1 if T ≥ TZ (1982Q3)

The equation for TEY is derived by evaluating integrals representing accruals of tax at the lower, basic and higher rates of income tax given the gamma distribution. Thus:

n (X) = $A * X^2 * \exp(-B*X)$
n (X) = number of taxpayers with income X.

The parameters A and B are defined in terms of total employees in employment and average earnings from the relationships

n(X) X dX = total wages and salaries

n(X) dX = total employees in employment.

The equation for the accruals of tax on employment incomes may then be derived by evaluating the following expression and simplifying.

$$TEY = \int_{b}^{z} \{ TPLR\ (x - b) \}\ n(x)\ dx + \int_{z}^{h} \{ TPLR\ (z - b) + TPBRZ\ (x - z) \}\ n(x)\ dx + \int_{h}^{\infty} \{ TPLR\ (z - b) + TPBRZ\ (h - z) + TPHR\ (x - h) \}\ n(x)\ dx$$

b	=	personal allowance for the representative tax payer
z	=	b + LRB
h	=	z + BRB
LRB	=	lower rate band width £, quarterly rate
BRB	=	basic rate band width £, quarterly rate
TPLR	=	lower rate of income tax.
TPBRZ	=	basic rate of income tax.
TPHR	=	higher rate of tax

This equation was modified in May 1992 to take account of the introduction of the lower rate of income tax in the 1992 Budget. The first integral in the expression above represents tax accruals by lower rate tax payers, the second accruals at the lower and basic rates by basic rate tax payers, and the third, accruals at the lower, basic, and higher rates by higher rate tax payers.

The first term in the Model equation represents accruals at the lower rate by all tax payers. The second terms represent accruals at the basic rate by basic and higher rate tax payers, whilst the third terms represent accruals at the higher rate.

The weights in TPAL are based on Inland Revenue estimates of the number of tax payers receiving each allowance. The time switch reflects the restriction of the married couples allowance to the lower rate in 1994Q2. The equation for PART (taxes on benefits) was calibrated on the basis of information supplied by the Inland Revenue.

Accruals of tax are assumed to iterate with tax allowances, pre-tax benefit incomes, and the basic rate. The equation identifies four elements of benefit that are subject to tax, state pensions, unemployment benefit, income support and statutory sick and maternity pay. The dating of the introduction of taxes on each benefit is handled via a series of time switches.

Further Documentation: MRG(90) 4, MRG(90) 9

No.	Name	Description	Unit	Source	Identifier
1003	CCLACA	Climate change and aggregates levy accruals adjustment	£M	ONS	LNSU+MDUR+CJRY

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1004	VREC	Net VAT receipts	£M	ONS	EYOO

Model equation: Behavioural Equation

VREC = ((VATFAC1(-1)*CDUR£(-1) + VATFAC2(-1)*(C£(-1) – CDUR£(-1)))

+ 0.686*CGP(-1) + 0.968*CGI£(-1) + 0.423*IHH£(-1)

+ 0.78*(0.1015*GDPM£(-1))) * TVAT(-1)/(1 + TVAT(-1))

Comment

VAT receipts are determined within a theoretical framework based on expenditure patterns. Receipts are broadly explained by five categories of expenditure: consumers' expenditure on durables, consumers' expenditure on non-durables, central government expenditure on procurement, central government investment, household investment and finally expenditure on exempt items that is modelled as a fixed share of money GDP. Assumptions regarding the proportion of expenditure in these categories that is subject to VAT is given in the proportions VATFAC1 and VATFAC2 which appear as Exogenous variables later in this group, and by the coefficients on the other three categories. Expenditure is simply multiplied by the respective proportion and totalled to give theoretical expenditure subject to VAT in a given year. This is then multiplied by the VAT rate to give the theoretically expected level of receipts, the lower rate of VAT that accounts for a small proportion of spending is accommodated via the coefficient. The shortfall between theory and practice i.e. the 'VAT gap' is handled via the adjustment setting on the equation.

No.	Name	Description	Unit	Source	Identifier
1005	EXDUTAC	Excise duty accruals adjustments	£M	ONS	RUSD

Model equation: Technical Relationship

EXDUTAC= EXDUT * g^4 (EXDUTAC/EXDUT)

EXDUT = VREC + TXALC + TXFUEL +TXTOB+ OPT + TXMIS

Comment

The main indirect taxes are VAT and duty paid on alcohol, fuel and tobacco. The equation relates the growth of accruals of indirect taxes to the growth of cash receipts.

No.	Name	Description	Unit	Source	Identifier
1006	TXALC	Alcohol duties (beer, wines and spirits)	£M	ONS	ACDF+ACD +ACDH+ACDI

Model equation: Behavioural Equation

Ln TXALC = Ln(PCE) + 0.64*Ln(C) - 0.00522*time(197702) - 4.5103

+ 0.0632*Q2 + 0.1421*Q3 + 0.4228*Q4 - 0.30822*(ifeq(198301)-ifeq(198302))

Estimation period: 1977Q2 to 2005Q4

R^2 = 0.836* SE = 0.032

* dependent variable = Ln TXALC - Ln PCE - 0.64 * Ln C

Comment

An estimate for aggregate alcohol elasticity was found by weighting each elasticity by its share of total alcohol duties. These income elasticities were taken from GES working paper No. 140 'Econometric Models of Alcohol Demand in the United Kingdom', they were -0.05, 1.51 and 0.69 for beer, wine and spirits respectively. The elasticity for beer is a weighted average of a negative elasticity for 'on-trade' beer and a positive elasticity for 'off-trade' beer. Shares of alcohol duty averaged 0.40, 0.28 and 0.30 over 2002-2005, hence giving an overall estimate of 0.64. Alcohol duties are seasonal, especially in Q4.

No.	Name	Description	Unit	Source	Identifier
1007	SIBICC	Total allowances on PNFCs investment in industrial buildings	£M	HMT	-

Model equation: Technical Relationship

SIBICC = g SIBICC + SIB * ICC£

Comment

This variable is computed as if all Private Non-Financial Corporations' (PNFC) investment were in industrial buildings. It is used in the equation for total capital allowances (CAPAL, V1016) where it is multiplied by 0.30, which is assumed to be the proportion of PNFCs' total investment represented by industrial buildings.

No.	Name	Description	Unit	Source	Identifier
1008	EENIC	Employees' payments of NICs	£M	ONS	AIHH-CEAN

Model equation: Technical Relationship

$$EENIC = 0.01 * [HEENIR * ALPH0 * \exp(-3*ULER)*(1 + 2*ULER + 1.5*ULER^2)$$

$$+ \exp(-3*LLER)*(1 + 2*LLER + 1.5*LLER^2)$$

$$- (1 - 0.575)(1 - 0.75) *\{\exp(-3*LLER)*(1 + 2*LLER + 1.5*LLER^2)$$

$$- \exp(-3*ULER)*(1 + 2*ULER + 1.5*ULER^2)\}] * EENIR * WFP$$

$$ULER = 0.001 * UL * (ET - ES)/ WFP$$

$$LLER = 0.001 * LL * (ET - ES)/ WFP$$

$$ALPHO = 1 \quad \text{if } T \geq TZ (2003Q2)$$

Comment

Both employees' National Insurance contributions (EENIC) and employers' contributions (EMPNIC) are modelled on the assumption of a gamma distribution for income, consistent with the approach adopted for modelling the tax on employment income component of the schedule E income tax equation (TYEM, V1002). The contributions equations comprise terms representing gross contributions on the assumption that all employers and employees are contracted-in to the State Earnings Related Pension Scheme (SERPS); and terms representing the notional rebate for those contracted-out of SERPS, which are deducted to calculate actual contributions.

Liability to National Insurance for employers and employees varies according to the level of employees' earnings. For employees' earning below the lower earnings limit (LL) no contributions are payable. The higher rate of employee NICs (HEENIR) was introduced in the 2002 Budget.

The equations for employees' and employers' contributions are based on evaluating relevant integrals representing notional gross contributions less contracted-out rebates assuming a gamma based income distribution:

$n(X) = A * X^2 * \exp(-B*X)$
$n(X) =$ number of taxpayers with income X.

The parameters A and B are defined in terms of total employees in employment and average earnings from the relationships

$n(X)\ X\ dX =$ total wages and salaries

$n(X)\ dX =$ total employees in employment.

The equation for employees' contributions is then derived by evaluating the expression:

$$EENIC = \int_{LL}^{UL} \{ EENIR\ (x - LL) \}\ n(x)\ dx + \int_{UL}^{\infty} \{ HEENIR\ (x - UL) \}\ n(x)\ dx + \int_{UL}^{\infty} \{ EENIR\ (UL - LL) \}\ n(x)\ dx + a * (EENIR - EEROUT) * \left[\int_{LL}^{UL} \{x - LL\}\ n(x)\ dx + \int_{UL}^{\infty} \{UL - LL\}\ n(x)\ dx \right]$$

Further Documentation

For details of related manipulation of the gamma distribution, see MRG(90) 4.

No.	Name	Description	Unit	Source	Identifier
1009	EMPNIC	Employers' payments of NICs	£M	ONS	CEAN

Model equation: Technical Relationship

$$EMPNIC = 0.01 * EMPNIR * WFP$$

$$[\exp(-3*LLER)*(1 + 3*LLER + 4.5*LLER^2 + 4.5*LLER^3)$$

$$- ALPH1 * \exp(-3*ULER)*(1 + 2*ULER + 1.5*ULER^2)$$

$$- (1 - 0.575)\ (1 - 0.6)\ \{\exp(-3*LLER)*(1 + 2*LLER + 1.5*\ LLER^2)$$

$$- \exp(-3*ULER)*(1 + 2*ULER + 1.5*ULER^2)\}]$$

$$ULER = 0.001 * UL * (ET - ES) / WFP$$
$$LLER = 0.001 * LL * (ET - ES) / WFP$$

$$ALPH1 = 1 \quad \text{if } T < TZ\ (1985Q3)$$
$$ALPH1 = 0 \quad \text{if } T \geq TZ\ (1985Q3)$$

Comment

See comment on EENIC (V1008) for a description of the National Insurance system, and the gamma income distribution assumption underlying the equations for both employers' and employees' contributions.

The equation for employers' contributions is derived by evaluating the expression:

$$EENIC = \int_{LL}^{\infty} EMPNIR * n(x) * x \, dx$$

$$- ALPH1 * \int_{UL}^{\infty} EMPNIR * n(x) * (x-UL) \, dx$$

$$+ a*(EENIR- EEROUT) * \left[\int_{LL}^{UL} \{x - LL\} n(x) \, dx + \int_{UL}^{\infty} \{UL - LL\} n(x) \, dx \right]$$

where EMROUT is the contracted-out rate.

Here the first integral represents notional gross employers' contributions i.e. before contracted-out rebate, under the system in operation since 1985Q4 when employers became liable to pay the full rate on all earnings above the upper earnings limit. This integral corresponds to the first line of the Model equation. The second integral (zero from 1985Q4 when ALPH1 takes the value zero) allows for the pre-1985Q4 (ALPH1 = 1) arrangements when employers paid no contributions on that part of each employees' earnings falling above the upper limit. This integral corresponds to the second line of the Model equation.

Finally the remaining terms in the expression (corresponding to the third and fourth terms of the Model equation) represent the notional contracted-out rebate. These take exactly the same form as the corresponding terms in the employees' contributions equation. All that differs is the contracted-in and contracted-out rates. In the Model equation the coefficient of 0.6 is used to represent the ratio EMROUT/EMPNIR.

Further Documentation

For details of related manipulation of the gamma distribution, see MRG(90) 4.

No.	Name	Description	Unit	Source	Identifier
1010	LL	Lower Earnings Limit for NICs (£, Q)	£	HMT	-

Model equation: Technical Relationship

$$LL = g\,LL * g^2 [Q1 + Q3 + Q4 + Q2*(1 + 2g)\,PR / g^4(1 + 2g)\,PR]$$

Comment

The equation automatically uprates the lower earnings threshold in accordance with institutional arrangements.

No.	Name	Description	Unit	Source	Identifier
1011	UL	Upper Earnings Limit for NICs (£, Q)	£	HMT	-

Model equation: Technical Relationship

UL = (TUL + 7.5) * LL

TUL = -0.47 if T > TZ 2000Q2
TUL = -0.89 if T ≥ TZ 2001Q2

No.	Name	Description	Unit	Source	Identifier
1012	TCACT	Advance Corporation Tax receipts	£M	ONS	ACCN

Model equation: Exogenous variable

Comment: Advance Corporation Tax was abolished in April 1999. The new Corporation Tax regime is reflected in the equation for onshore mainstream corporation tax (V1015).

No.	Name	Description	Unit	Source	Identifier
1013	NSCTP	North Sea Corporation Tax Payments	£M	ONS	DBJY

Model equation: Behavioural Equation

NSCTP = 0.29948*NSGTP(-7)*(TCPRO(-7)+SC(-7)) - (TCPRO(-2)+SC(-2))*
(6.4)

(0.55334*TCACT(-2) + 1.8571*NSROY(-2) + 0.17629*PRT(-2))
(9.1) (5.3) (1.6)

+ 409.4802 - 303.7928*Q2
(5.9) (6.7)

+ 803*ifeq(198601) + 626*ifeq(199704) + 606*ifeq(199804) + 738*ifeq(200104)
(4.1) (3.2) (3.1) (3.8)

Estimation period: 1980Q4 to 2005Q3

R^2 = 0.792
SE = 189.3
LM F (4,86) = 3.9[0.005]
DW = 1.41
Normality CHI^2_2 = 0.38 [0.83]

Comment: This receipts equation is broadly driven by North Sea gross trading profits. Royalty and ACT payments are deducted as these are allowable against profits. The equation was difficult to specify and estimate, it suffers from serial correlation.

No.	Name	Description	Unit	Source	Identifier
1014	TXFUEL	Hydrocarbon oils duty receipts	£M	ONS	ACDD

Model equation: Technical Relationship

TXFUEL = GDPM£ * g (TXFUEL/GDPM£)

Comment: The series is assumed to grow in line with nominal GDP.

No.	Name	Description	Unit	Source	Identifier
1015	NNSCTP	Onshore mainstream Corporation Tax receipts	£M	ONS	ACCD-ACCN-DBBD-DKGZ

Model equation: Technical Relationship

NB this technical relationship applies 1998Q4 and earlier.

```
XNNSCT =  ( 1.23630*(distlag(INC(-1),4,1))

          - 0.75674*(distlag(TCACT,4,1) - distlag(NSACT,4,1)
                                                + CAPAL*distlag(TCPRO(-
          1),4,1)/4)

          - 0.019642*((distlag(CBIBC(-1),4,1)/4)*(distlag(INC(-1),4,1)
                              - (distlag(TCACT,4,1) - distlag(NSACT,4,1))
                                    - CAPAL*distlag(TCPRO(-1),4,1)/4)) -
          1437)/4*Q2

          + (1 – Q2)*XNNSCT(-1)

INC =     TCPRO* (NNSCTP + NSCTP + PRT + NSROY + TCACT - NSGTP + SAVCO
                                                + 1.73*NDIVHH + 0.25*DIPD)
```

NB this technical relationship applies after 1998Q4.

```
NNSCTP =  ((CT1*XNNSCT + CT2*(1.23630*INC(-1)

          - 0.75674*(TCACT - NSACT  + (distlag(CAPAL,4,1)*distlag(TCPRO(-1),4,1)/4)
                          *(Q1+Q2+Q3+Q4)/4)

          - 0.019642*CBIBC(-1)*(INC(-1) - (TCACT - NSACT)
                    - (distlag(CAPAL,4,1)*distlag(TCPRO(-1),4,1)/4)
                       *(Q1+Q2+Q3+Q4)/4) + 5250))

          *(1 – ifle(199804)) + ifle(199804)*XNNSCT)
```

Comment

This equation was estimated using annual data over 1977-1998 and over that period is well specified, it reflects the institutional lags between corporation tax accruals and payments. The equation forecasts financial year totals of corporation tax, driven by the previous calendar year taxable profits (proxied by INC) less identified allowances (CAPAL and ACTSET). The totals are

then distributed evenly over the four quarters. The annual cyclicality of the tax is captured by the CBI spare capacity indicator (which is multiplied by the simplified tax base). INC is constructed by taking all company savings (SAVCO), adding back in distributed income (taxes, royalties, dividends and income due abroad) and subtracting stock appreciation and North Sea gross trading profits. The equation reflects the reforms of the Corporation Tax system announced in the March 1998 Budget, and which were implemented in April 1999. It proved very difficult to accommodate this major structural break in estimation, and so the equation is calibrated.

No.	Name	Description	Unit	Source	Identifier
1016	CAPAL	Capital allowances due (all companies)	£M	IR	-

Model equation: Technical Relationship – see model coding.

Comment

CAPAL is an annual variable computed in Q1 of each year. The value appearing in Q1 represents the sum of the variable in the preceding calendar year.

The equation separately identifies capital allowances available to PNFCs and financial companies on a three asset split (plant and machinery, industrial buildings and vehicles). The equation implicitly assumes no investment by financial companies in industrial buildings. Investment in commercial buildings is not allowable against tax. The asset split is represented by the coefficients 0.477, 0.303 and 0.132 respectively for the weights of plant and machinery, industrial buildings and vehicles in PNFCs total investment; and 0.565 and 0.029 respectively for the weights of plant and machinery and vehicles in financial companies total investment (IFC£). The variables FP, SP, FIB, SIBIIC and SV represent first year and annual writing down allowances (cumulated in the case of SIBIIC). In reality, the lags on past investment in plant and machinery and vehicles are longer than the five years allowed for in this equation, and so the equation involves a fair degree of approximation even in principle.

No.	Name	Description	Unit	Source	Identifier
1017	PRT	Petroleum Revenue Tax inc. advance PRT	£M	ONS	ACCJ

Model equation: Behavioural Equation

PRT = -122+ 0.077560*NSGTP(-1) + 143*Q1 + 174*Q3 + 409*ifeq(199701) + 318*ifeq(200503)
(2.1) (5.7) (4.1) (5.0) (3.9) (3.0)

Estimation period: 1993Q1 to 2005Q4
R^2 = 0.71
SE = 100.12
LM F (4,42) = 0.264 [0.899]
Normality CHI^2_2 = 0.89 [0.638]
Hetero CHI^2_1 = 0.15 [0.699]

Comment: This equation simply uses North Sea Gross Trading Profits (NSGTP) as a proxy to drive PRT receipts.

No.	Name	Description	Unit	Source	Identifier
1018	NSROY	North Sea Royalties accruals	£M	ONS	ACEC

Model equation: Behavioural Equation

NSROY = (0.013684*7.5*(NSGVA(-1)*PBRENT(-1))/(OILBASE*RXD(-1)) - 216.536;
(10.9) (6.4)

+ ifge(198302)*(228*Q1 + 235*Q3)
(8.6) (8.9)

+ 184*ifle(198301) - 420*ifeq(198301) - 325*ifge(199903))*ifle(200204)
(6.3) (4.2) (9.3)

Estimation period: 1979Q1 to 2002Q4

R^2 = 0.74
SE = 95
LM F (4,85) = 28 [0.0]
Normality CHI^2_2 = 0.44 [0.80]
Hetero CHI^2_1 = 0.42 [0.51]
DW = 0.89

Comment

This receipts equation is driven by North Sea value added (NSGVA), brought to current price terms by the Brent Oil price (PBRENT is scaled by the sterling dollar cross rate and multiplied by 7.5 to convert from barrels to tonnes). North Sea royalties were abolished in 2003.

No.	Name	Description	Unit	Source	Identifier
1019	OHT	Other household taxes on income	£M	ONS	*3
				*3 = NSFA+NSNP+CQTC	

Model equation: Technical Relationship

OHT = GDPM* g (OHT / GDPM£)

Comment

Other household taxes comprise fishing and boating licences and Northern Ireland domestic rates. Vehicle excise duty paid by households is now included in model variable OCT, vehicle excise duty paid by companies (non-HH) is part of model variable OPT. Household payments are assumed to grow in line with nominal GDP.

No.	Name	Description	Unit	Source	Identifier
1020	DIRCG	Total CG debt interest receipts	£M	ONS	*4
				*4 = GVHA+GVHC+GVHE-ZYHY-ZYIA	

Model equation: Technical Relationship

DIRCG = DILACG + DIPCCG + [0 y(0.2 RL + 0.8 RS) + 0 y(RS + 5)] * g SLCGPR

+ CGC + y(RS)*OCGASS

The equation distinguishes between two sorts of CG lending to the private sector (SLCGPR): short-term debt with a premium that mostly consisted of debentures from former public

corporations, and student loans. The former debt stock is now zero and the latter has historically had a zero rate of interest, hence the coefficients on the interest flow are zero.

No.	Name	Description	Unit	Source	Identifier
1021	DIRLA	Total LA debt interest receipts	£M	ONS	NUHC+GVHD +GVHF-ZYHZ

Model equation: Technical Relationship

DIRLA = DIPCLA + DICGLA + g SLAM y (RS)

+ y (0.64 (RMORT –RS) + (1 - 0.64)RL) g SLAPO

Local Authorities undertake some mortgage lending to the private sector and this is reflected in the weights on the interest flows from the stock of private sector debt they hold.

No.	Name	Description	Unit	Source	Identifier
1022	TXTOB	Tobacco duty	£M	ONS	ACDE

Model equation: Technical Relationship

Ln TXTOB = -0.92735 - 0.0035*(T - 9) + (0.443868 - 0.17316 g) * Ln PCE

+ [0.17316*g Ln (PCE/114.1) + (1 - 0.443868)*Ln (PCE/115.3)]*AA +0.6299 Ln C

AA = 0 if T $\leq$ TZ (1994Q1)
AA = 1 if T > TZ (1994Q1)

Comment

The equation runs off the consumers' expenditure with a switch to allow for the announced policy of real increases in tobacco duties.

No.	Name	Description	Unit	Source	Identifier
1023	OPT	Other Production Taxes	£M	ONS	NMBX-CUKY

Model equation: Technical Relationship

OPT = GDPM£* g (OPT / GDPM£)

Comment

This variable includes Vehicle Excise Duty (VED) paid by companies, ITC franchise payments, regulator fees and Northern Ireland non-domestic rates. The series is assumed to grow in line with nominal GDP.

No.	Name	Description	Unit	Source	Identifier

1024	TXMIS	Misc. expenditure taxes	£M	ONS	*5

*5 = MIYP+ACDP+ACDO+DOLC+LITN+ACDM+GTAZ-CUAG+CLCJ+CIQY+MDUP

Model equation: Technical Relationship

TXMIS = C£* g (TXMIS / C£)

Comment

This series includes betting and gaming duties, air passenger duty and insurance premium tax (1994Q4 onwards), landfill tax (1996Q4 onwards), the gas and fossil fuel levies, car tax (pre-1993Q2) and payments by Camelot to the NLDF. It is net of bus fuel duty rebate and VAT penalties. The series is assumed to grow in line with nominal consumers expenditure.

No.	Name	Description	Unit	Source	Identifier
1025	TSEOP	Taxes on self-employment incomes	£M	ONS	ZAFG

Model equation: Technical Relationship

TSEOP = TSE + 0.1 DIRHH

TSE = g^4 (MI + WYQC) g^4 { TPLR * SETA * (g^4 TPNSA)

+ SETA (g^4 (LRB + TPNSA)) * (TBRZ – TPLR)

+ SETA (g^4 (LRB + BRB + TPNSA)) * (TPHR – TBRZ)}

Ln (SETA(A)) = = -3 * A / g^4 SE + g^4 Ln (1.0 + 2.0 * A / SE + 1.5 * (A / SE)^2)

Comment

This variable represents tax receipts on self-employment and other personal incomes. The former are defined as mixed income plus the withdrawals of income from quasi-corporations (partnerships) and are modelled assuming a gamma distribution for such incomes (see comment under V1002). Tax receipts on interest income are modelled by applying an effective tax rate to household interest receipts.

No.	Name	Description	Unit	Source	Identifier
1026	TCINV	Other company taxes on investment	£M	ONS	GRXE

Model equation: Technical Relationship

TCINV = TPBZR * {0.083*(DICGOP+DICGPC+DICGLA)

+ 0.100*(DILAPR+DILACG+DILAPC)}

Comment: This relationship is not estimated but is included with imposed coefficients.

No.	Name	Description	Unit	Source	Identifier
1027	INHT	Inheritance Tax	£M	ONS	NMGI

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1028	TXKCO	CG receipts of capital taxes on companies	£M	ONS	DKGZ

Model equation: Exogenous variable

Comment: This variable represents capital gains tax on companies.

No.	Name	Description	Unit	Source	Identifier
1029	CC	Community tax\council tax accruals	£M	ONS	NMIS

Model equation: Technical Relationship

CC = 0.81 * [-AEG + TSUBL + 0.987 * (LAWS* + LAPR*) + 0.068*LACGPER

-0.75 * LAVAT + 0.525 * (DILAPR + DILACG + DILAPC) – 1.3*DIRLA]

Comment

Under ESA95 accounting conventions domestic rates are defined as a household tax on income and wealth. This departs from the previous convention that scored domestic rates as a tax on expenditure. However, the treatment of the Community Charge/Council Tax is unchanged (i.e. it continues to score as a tax on income and wealth).

No.	Name	Description	Unit	Source	Identifier
1030	NNDRA	National Non-Domestic Rates Accruals	£M	ONS	CUKY

Model equation: Technical Relationship

NNDRA = $g\,[Q1 + Q3 + Q4 + g\,\{(1 + g)\,PR/\,g^4\,(1 + g)\,PR\}\,Q2g^3\,]$*NNDRA

Comment

Business rates were replaced by the National Non-Domestic Rate in 1990Q2. The rate is up-rated annually in line with the September RPI in April each year. Business rates are a central government tax on production.

No.	Name	Description	Unit	Source	Identifier
1031	XLAVAT	VAT refunds (except to LA)	£M	ONS	CUNW

Model equation: Technical Relationship

XLAVAT = 0.3012 * CGP * TVAT / (1 + TVAT)

Comment

The national accounts record public sector expenditure inclusive of VAT. General government is eligible for refunds of VAT paid on inputs to their non-business activities. These refunds are scored as general government receipts. In addition, a number of VAT refunds are made to public corporations, private sector companies and to individuals in respect of non-business activities. In the national accounts total VAT accruals only includes general government VAT that is not refunded.

No.	Name	Description	Unit	Source	Identifier
1032	LAVAT	VAT refunds to LAs	£M	ONS	CUCZ

Model equation: Technical Relationship

LAVAT = 36.0*ifle(198401) + (0.98*LAPR + 2*LAI£*VATHOME)*(TVAT/(1 + TVAT))

*W VATHOME = 0.22*ifle(198401) + 0.33*ifge(198402)

Comment

See comment for XLAVAT. The 1984 time switch relates to the introduction of VAT on home improvements.

No.	Name	Description	Unit	Source	Identifier
1033	CGISC	CG imputed social contributions	£M	ONS	GCSG+GCSH +RUDY

Model equation: Technical Relationship

CGISC = 0.005739 * WFP

Comment

Central government imputed contributions to notionally and un-funded pension schemes. Under ESA95, notionally and un-funded pension contributions are recorded within CG grants to the household sector, and are a determinant of net borrowing. (Under previous national accounts conventions, these contributions were treated as a financing item, rather than a determinant, of net borrowing). See also V0949, V0971, V0974 and V1044.

No.	Name	Description	Unit	Source	Identifier
1034	KGLA	LA capital receipts from UK companies and EU	£M	ONS	ANNO

Model equation: Technical Relationship

KGLA = 0.8 * EUKT

No.	Name	Description	Unit	Source	Identifier
1035	DVPPSCG	Dividends from Private Sector to CG	£M	ONS	ZYIA

Model equation: Technical Relationship

DVPSCG = POISS

No.	Name	Description	Unit	Source	Identifier
1036	NICAC	National Insurance accruals adjustment	£M	ONS	ACJY

Model equation: Technical Relationship

NICAC = 0.36*(diff(EENIC) + diff(EMPNIC)) + 973*(Q4 - Q2)

No.	Name	Description	Unit	Source	Identifier
1037	HEENIR	Employee NICs higher rate	%	HMT	-

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1038	INCTAC	Income tax accruals adjustment	£M	ONS	CYNX+RUTC DKHE+DBKE

Model equation: Technical Relationship

INCTAC = 0.5 * (1 - g) TYEM

Comment: Includes an adjustment for taxes on life assurance gains, as it is not included elsewhere in the model.

No.	Name	Description	Unit	Source	Identifier
1039	ILGAC	Accruals adjustment on index linked gilts	£M	ONS	-NMQZ

Model equation: Technical Relationship

ILGAC = ILGCSH - ILGUP

Comment: Difference between the accrued uplift and the payment of accrued interest on redemption.

No.	Name	Description	Unit	Source	Identifier
1040	RNCG	CG rental receipts (ex. capital consumption)	£M	ONS	NMCK-ACEC-BKTK

Model equation: Technical Relationship

RNCG = 1.65*(PIPHH-DIPHH)

Comment: Share of the residual on the equation for household payments of property income.

No.	Name	Description	Unit	Source	Identifier
1041	LAAC	LA accruals adjustment (NSA)	£M	ONS	-ANML

Model equation: Technical Relationship

LAAC = CCACC + LANDRAA

No.	Name	Description	Unit	Source	Identifier
1042	LRB	Lower rate band width (£, Q rate)	£	IR	-
1043	BRB	Basic rate band width (£, Q rate)	£	IR	-

Model equations: Technical Relationships

LRB = (1 - Q2) g LRB + g^2 [(0.5 + g) PR/ g^4 (0.5 + g) PR] g^4LRB * Q2

BRB = (1 - Q2) g BRB + g^2 [(0.5 + g) PR/ g^4 (0.5 + g) PR] g^4BRB * Q2

if T > TZ (1995Q2)

Comment

Note that both variables are exogenous for earlier periods, and are key for V1001. This variable was introduced in May 1992 as a consequence of the introduction of the lower rate of income tax. The equation allows for revalorisation in line with RPI inflation (a weighted average of the RPI in Q3 and Q4) in the second quarter of each year. This uprating is controlled by a coefficient. In periods before revalorisation is assumed to take place, the lower rate band width is exogenous. The basic rate band was dealt with by means of a coefficient in previous versions of the model.

No.	Name	Description	Unit	Source	Identifier
1044	EESCCG	Employee contributions to notional & unfunded CG pension schemes	£M	ONS	GITB+GVFJ

Model equation: Technical Relationship

EESCCG = 0.0099929*WFP

Comment

Employee contributions reduce net social benefits paid by CG to households, so reducing CG net borrowing. See comment for V1033.

No.	Name	Description	Unit	Source	Identifier
1045	TPMCA	Married Couples Allowance (£, Q rate)	£	IR	-
1046	TPSNA	Single persons allowance (£, Q rate)	£	IR	-
1048	TPAG	Age allowance (avg. single & married)	£	IR	-

Model equation: Technical Relationships

TPMCA = (1 - Q2) * g TPMCA + g^2 [(0.5 + g) PR / g^4 (0.5 + g) PR] g^4TPMCA* Q2

TPSNA = (1 - Q2) * g TPSNA + g^2 [(0.5 + g) PR / g^4 (0.5 + g) PR] g^4TPSNA* Q2

TPAG = (1 - Q2) * g TPAG + g^2 [(0.5 + g) PR / g^4 (0.5 + g) PR] g^4TPAG* Q2

if T > TZ (1995Q2)

Comment

Note that these variables are exogenous for earlier periods. These variables are the major personal income tax allowances deductible against gross personal incomes, and feature in the equation for accruals of tax on employment incomes (TEY). The equations allows for revalorisation in line with RPI inflation (a weighted average of the RPI in Q3 and Q4) in the second quarter of each year. This mechanism is controlled by the operation of a coefficient in the model. In periods before revalorisation is assumed to take place, the allowance is exogenous. The married allowance was abolished (for those couples under 65) in the 2000 Budget.

No.	Name	Description	Unit	Source	Identifier
1047	TPLR	Lower rate of income tax (ratio)	%	HMRC	-
1049	TPBRZ	Basic rate of income tax	%	HMRC	-

Model equation: Exogenous variables

No.	Name	Description	Unit	Source	Identifier
1050	NSACT	North Sea ACT	£M	HMRC	-

Model equation: Exogenous variable

Comment: Advance Corporation Tax was abolished in April 1999.

No.	Name	Description	Unit	Source	Identifier
1051	NHNPTC	Non-household NPISH tax credits	£M	ONS	CFGW-DYW -MDYU

Model equation: Exogenous variable

Comment

Not all working and children's tax credits are paid to households: some are paid to Non-Profit Institutions Serving Households (NPISH).

No.	Name	Description	Unit	Source	Identifier
1052	MFTRAN	CG misc. financial transactions inc. balancing item	£M	ONS	-ANRV

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1053	TCPRO	Corporation tax rate	%	HMRC	-

Model equation: Exogenous variable,

No.	Name	Description	Unit	Source	Identifier
1054	WTCCTC	Working and children's tax credit	£M	ONS	MDYN

Model equation: Exogenous variable

Comment: See V1051.

No.	Name	Description	Unit	Source	Identifier

1055	CCACC	Council tax accruals adjustment	£M	ONS	-CDXW-ADDC

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1056	EENIR	Weighted average of Class 1 contracted in employee NIC rates	%	HMT	-
1057	EMPNIR	Weighted average of Class 1 contracted in employer NIC rates	%	HMT	-

Model equation: Exogenous variables

Comment: Sourced from Government Actuaries Department, see also V1008 and V1009.

No.	Name	Description	Unit	Source	Identifier
1058	TVAT	VAT rate	%	HMRC	-
1059	VATFAC1	VAT-able durables consumption	%	HMRC	-
1060	VATFAC2	VAT-able non-durables consumption	%	HMRC	-

Model equation: Exogenous variables.

Comment: The VATFAC variables represent the proportions of durables and non-durables consumer spending that are subject to VAT, they are used to estimate the VAT base in the VAT receipts equation (V1004).

No.	Name	Description	Unit	Source	Identifier
1061	TMIRAS	MIRAS tax rate	%	HMRC	-

Model equation: Technical Relationship

TMIRAS = TPBRZ*ifle(199401) + TPLR*ifge(199402)*ifle(199501)

Comment

The tax rate for Mortgage Interest Relief At Source is specified for transparency. It was available at progressively lower rates after 1995 and was abolished in 2000.

No.	Name	Description	Unit	Source	Identifier
1062	TPHR	Higher rate of income tax	%	HMRC	-

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1063	CGNDRAA	NNDR end year adjustment	£M	ONS	LNFP+CULD

Model equation: Exogenous variable

Comment: Accruals adjustment between local authorities and central government.

No.	Name	Description	Unit	Source	Identifier
1064	NNDACC	NNDR accruals adjustments	£M	ONS	*6

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1065	WINDT	Windfall tax receipts	£M	ONS	EYNK

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1066	CT1	Old CT regime proportion	%	HMT	-
1067	CT2	New CT regime proportion	%	HMT	-

Model equation: Technical Relationship

Comment:

Switch variables for the change in the Corporation Tax regime from April 1999 (see V1015).

No.	Name	Description	Unit	Source	Identifier
1068	MILAPM	MIRAS, LAPRAS and PMI relief at source scored as receipts	£M	ONS	GCJG

Model equation: Technical Relationship

MILAPM = 0.54 * TMIRAS * LHP * y (RMORT)

if T ≥ 1991Q2

Comment

Mortgage Interest Relief At Source (MIRAS), LAPRAS and PMI etc.

No.	Name	Description	Unit	Source	Identifier
1069	VTR	Vocational training relief-receipts	£M	ONS	-MDUF

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1070	MILAPME	MIRAS, LAPRAS and PMI relief at source scored as public expenditure	£M	ONS	DCHG+DCHF +GCJJ

Model equation: Technical Relationship

MILAPME = 0.061 * MILAPM

if T ≥ 1991Q2

Comment: See V1068.

No.	Name	Description	Unit	Source	Identifier
1071	VTRCS	Vocational training & other reliefs scored as public expenditure	£M	ONS	IQKI+BKSG+BKSH

Model equation: Exogenous variable

Comment: Vocational training, charities and stakeholder pensions relief scoring as public expenditure.

No.	Name	Description	Unit	Source	Identifier
1072	HHTCG	Household transfers to CG	£M	ONS	NMEZ

Model equation: Technical Relationship

HHTCG = g HHTCG

No.	Name	Description	Unit	Source	Identifier
1073	TAXCRED	Total income tax credits	£M	ONS	HMT

Model equation: Technical Relationship (Identity)

TAXCRED = MILAPM + VTR + WFTCNT + CTC

Comment

Tax credits, including credits netted off Inland Revenue receipts and credits paid to non-taxpayers.

No.	Name	Description	Unit	Source	Identifier
1074	INCTAXG	Income tax gross of tax credits	£M	ONS	LIPG

Model equation: Technical Relationship (Identity)

INCTAXG = TYEM + TSEOP + TCINV - INCTAC + VTR + CTC - PFTC - NPISHTC

No.	Name	Description	Unit	Source	Identifier
1075	CT	Corporation Tax	£M	ONS	ACCD-MDXH+JPPT

Model equation: Technical Relationship (Identity)

CT = TCACT + NSCTP + NNSCTP + TXKCO + PCOTC + RLCOTC

No.	Name	Description	Unit	Source	Identifier
1076	NTSSC	Net taxes and social security contributions	£M	ONS	HMT

Model equation: Technical Relationship (Identity)

NTSSC = (INCTAXG - TAXCRED + EENIC + EMPNIC - NICAC) + (CGT + INHT + TSD)
+ (VREC + LAVAT + XLAVAT + TXALC + TXTOB + TXFUEL + TXMIS)
+ (OCT + BETPRF) + (CC + CCACC + NNDRA + LANNDR – NNDACC)
+ (CT - RLCOTC + PRT + NSROY + WINDT - CCLACA) + LAPT + OPT + EUOT

No.	Name	Description	Unit	Source	Identifier
1077	CGCs	CG IPD credits (earnings on reserves)	£M	ONS	D69U

Model equation: Technical Relationship

CGC = ((1+(ROSHT - 0.3)/100)^0.25 - 1)*(SRES + SRES(-1))/2 + 25

No.	Name	Description	Unit	Source	Identifier
1078	SWAPS	Swap adjustments	£M	ONS	CFZG

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1079	ROCs	Renewable Obligation Certificates (tax on products)	£M	ONS	EP89

Model equation: Technical Relationship

ratio(ROCs)= ratio(GDPM£)

No.	Name	Description	Unit	Source	Identifier
1080	EUOT	Payments of taxes on products to EU	£M	ONS	FJWE+FJWG

Model equation: Technical Relationship

EUOT = GDPM£* g (EUOT/GDPM£)

No.	Name	Description	Unit	Source	Identifier
1081	CGT	Capital Gains Tax	£M	ONS	QYJX

Model equation: Exogenous variable

Comment: CG capital gains tax receipts from households.

No.	Name	Description	Unit	Source	Identifier
1082	POISS	Profits of note issue	£M	ONS	EYWM

Model equation: Technical Relationship

POISS = M0*0.92*((1 + (RS - 0.22)/100)^.25 - 1)

Comment

The equation captures the interest earned on the assets that back the note issue. The interest rate is at a discount to short rates.

No.	Name	Description	Unit	Source	Identifier

1083	LAPT	LA receipts of production taxes	£M	ONS	NMYH

Model equation: Technical Relationship

LAPT = g LAPT GDPM£ / g GDPM£

No.	Name	Description	Unit	Source	Identifier
1084	MOBACC	Spectrum accruals adjustment	£M	ONS	-BKTC
1085	MOBREV	Spectrum accruals	£M	ONS	BKTK

Model equation: Exogenous variable and technical relationship.

MOBACC = MOBREV

Comment

These are the receipts and associated accruals adjustment from the Auction of Spectrum Licences in 2001. Under ESA95 it could be argued that these receipts should be scored as the sale of an asset but in the UK they are scored as rent accruing each year.

No.	Name	Description	Unit	Source	Identifier
1086	CTC	Children's Tax Credit	£M	ONS	-MUDG-MDYL

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1087	BETPRF	Betting tax scored as taxes on income & wealth	£M	ONS	MIYF

Model equation: Exogenous variable.

No.	Name	Description	Unit	Source	Identifier
1088	BETLEVY	Betting levies scored as taxes on income & wealth	£M	ONS	DY9E

Model equation: Exogenous variable.

No.	Name	Description	Unit	Source	Identifier
1091	VED	Vehicle Excise Duty (VED) receipts	£M	ONS	GTAX
1092	VEDHH	VED paid by HH	£M	ONS	CDDZ
1093	VEDCO	VED receipts from non-HH	£M	ONS	GTAX-CDDZ

Model equation: Technical relationship (Identity)

VED = VEDHH + VEDCO

Comment

Previously VED paid by households was included in OHT but it is now explicitly identified. VEDHH and VEDCO are both exogenous.

No.	Name	Description	Unit	Source	Identifier
1094	BBC	Television licence tax	£M	ONS	DH7A

Model equation: Exogenous variable.

No.	Name	Description	Unit	Source	Identifier
1095	PASSPORT	Passport fees	£M	ONS	E8A6

Model equation: Exogenous variable.

No.	Name	Description	Unit	Source	Identifier
1096	OCT	Other current taxes	£M	ONS	NMCV-CQOQ

Model equation: Technical relationship (Identity)

OCT = VEDHH + BBC + PASSPORT + OHT

Comment

VED paid by companies is classified as a tax on production and is hence included in OPT.

No.	Name	Description	Unit	Source	Identifier
1097	DIVRCG	Total CG dividend receipts	£M	ONS	ZYIA+ZYHY

Model equation: Technical relationship (Identity)

DIVRCG = DVPSCG + DVPCCG

No.	Name	Description	Unit	Source	Identifier
1098	NIS	Employers' Natl Insurance Surcharge	£M	ONS	ACEF

Model equation: Exogenous variable.

No.	Name	Description	Unit	Source	Identifier
1099	SC	Supplementary charge on N. Sea profits	£M	HMT	-

Model equation: Exogenous variable.

No.	Name	Description	Unit	Source	Identifier
6001	CETAX	Custom & Excise Taxes	£M	ONS	ACAC

Model equation: Technical relationship (Identity).

CETAX = VREC + TXFUEL + TXTOB + TXALC + EUOT + CCL + AL + TXCUS

No.	Name	Description	Unit	Source	Identifier
6002	TXCUS	Misc. Customs and Excise taxes	£M	ONS	*6002

Model equation: Technical relationship.

ratio(TXCUS)= ratio(C£)

No.	Name	Description	Unit	Source	Identifier
6003	AL	Aggregates Levy	£M	ONS	MDUP

Model equation: Exogenous variable.

No.	Name	Description	Unit	Source	Identifier
6004	CCL	Climate Change Levy	£M	ONS	LSNS

Model equation: Exogenous variable.

No.	Name	Description	Unit	Source	Identifier
6005	OFGEM	Tax levied by OFGEM	£M	ONS	*E02E

Model equation: Technical relationship.

ratio(OFGEM) = ratio(GDPM£)

No.	Name	Description	Unit	Source	Identifier
6006	SENIR	Self-Employed class 4 NIC Rate	%	HMT	

Model equation: Exogenous variable.

No.	Name	Description	Unit	Source	Identifier
6007	RFP	Rail franchise premia	%	ONS	LITT

Model equation: Exogenous variable.

GROUP 11: BALANCE OF PAYMENTS

This group contains Interest, Profit and Dividends earned and paid overseas (IPD credits and debits), the related stocks of overseas assets and liabilities and the implied rate of return yields. It also includes the current balance of payments identity, most transfers, the model's system of exchange rate equations and various related variables.

IPD

IPD credit and debit variables are calculated by applying rates of return (R) to the stocks (Q) of overseas assets and liabilities respectively. These stocks are determined by revaluing the stock levels in the previous period to allow for movements in exchange rates and asset prices, and adding a term to capture gross capital flows (overseas investment).

The implicit gross capital flow terms are constrained to ensure the balance of payments identity holds (with net capital inflows equal to the current account deficit). The treatment is highly aggregative. There is only one aggregate debits variable. Credits are also aggregated, with only central government earnings on the reserves separately identified. Bank lending, which dominates in gross terms but is small in net terms, is included on a net basis: foreign currency lending in assets; sterling lending in liabilities.

The stock variables are measured as end-quarter (Q_t) levels, but the IPD flows are derived from average stock levels, where:

$IPD_t = 0.25 * R_t * S_t$
$S_t = (Q_t + Q_{t-1}) / 2$
$Q_t = Q_{t-1} *$ Revaluation effect + capital outflow

Capital flows are modelled implicitly and the implicit capital inflow term in the assets equation is based on a stock adjustment approach. The target level of liabilities is modelled as a multiple of GDP that rises over time. The actual level adjusts towards this target but only by a fraction of the difference in any period (9 per cent). The implicit flow term in the liabilities equation is determined by the current account identity. Two kinds of revaluation to the stocks of assets and liabilities are identified:

1. Exchange rate effects
   US dollar
   Non-dollar

2. Asset price changes
   Equity prices (FT UK all share and world (ex. UK) indices
   Long-term interest rates

The rates of return proved difficult to model. A reasonable equation was estimated for the return on liabilities. The rate of return on assets equation was estimated in the form of a margin over the rate of return on liabilities, given the statistical correlation between the two rates of return and the difficulties of obtaining a satisfactory independent equation. Although the composition of the stocks of assets and liabilities will generally differ (e.g. with different direct investment shares), the explanatory variables are also modelled as margins (e.g. the world long rate less the UK long rate).

The equations for rate of return do not contain any explicit dividend yield terms, and hence the terms in profitability and long rates may therefore be partly proxying the yield on equities. IPD

flows feed into various other model variables with coefficients that reflect the shares of bank lending, direct, portfolio, oil and `other' investment in the total over the last few years.

The Exchange Rate

The exchange rate equation is based on a modified uncovered interest parity condition with its risk premium assumed to be a function of the current account relative to GDP and inflation differentials.

Further Documentation

MRG (93)12 and minute from Roy Cromb to Rod Whittaker of 11 August 1993.

No.	Name	Description	Unit	Source	Identifier
1101	SAS	Stock of Assets	£M	ONS	*7

*7 = HBQA-LTEB-HCFO-NLDA-HFBB

Model equation: Technical Relationship

$$SAS = \underset{(1.0)}{(REVA - 0.11) * g\,SAS} + \underset{(1.5)\quad(1.5)}{[\,-1.03 + 0.013 * T\,] * (\,GVA^{*}\,)}$$

$$REVA = [\,1 + 0.60 * (g\,RXD/RXD - 1) + 0.4\,(g\,RX/RX - 1)\,] *$$

$$\underset{(2.0)}{[\,1 + 0.25 * (WEQPR/gWEQPR - 1) + 0.05 * (g\,ROLT/ROLT - 1)]}$$

Estimation period: 1989Q2 - 1999Q4

$R^2 = 0.99$ DW = 1.8
SE = 3.3 Normality $CHI^2_2 = 1.0$
LM F (4,33) = 2.3 Hetereo F(1,41) = 5.3

Comment

SA is the stock of overseas assets, excluding central government reserves and bank lending overseas in sterling, but including bank lending overseas in foreign currency (in net terms).

The equation is estimated but most coefficients were imposed in line with actual shares of different categories of investment over the last few years. The implicit capital outflow term is modelled as a stock adjustment to a target multiple of nominal GDP (GVA£) that rises over time.

No.	Name	Description	Unit	Source	Identifier
1102	SL	Stock of Liabilities	£M	ONS	HBQB-HFBB-HCFQ-NLDA

Model equation: Technical Relationship

SL = [(-CB -DRES -BAL + g SL * REVL - 0.11 * g SA) / GVA* - 1.03 + 0.013*T)] GVA*

REVL = 1 + 0.28 * (g RXD/RXD - 1) + 0.1 * (g RX/RX - 1)

+ 0.37 * (EQPR/g EQPR - 1) + 0.05 * (g RL/RL - 1)

Estimation period: 1989Q2 to 1999Q4

R^2 = 0.99 DW = 1.5
SE = 7.71

Comment

SL is the stock of liabilities to overseas residents, excluding overseas residents' deposits with UK banks in foreign currency but including overseas residents' sterling deposits with UK banks (in net terms).

The equation is similar to that for the stock of assets, though the coefficients on the exchange rate revaluation terms sum to much less than unity, reflecting the smaller proportion of liabilities denominated in foreign currency (some commercial bonds, oil related investments and individuals' borrowing from abroad).

No.	Name	Description	Unit	Source	Identifier
1103	SRES	Stock of total official reserves	£M	ONS	AIPD

Model equation: Technical Relationship

SRES = - DRES + [1 + 0.43 * (g RXD/RXD - 1) + 0.29 * (g RX/RX - 1)] * g SRES

No.	Name	Description	Unit	Source	Identifier
1104	BAL	Balancing item in BoP account	£M	ONS	HHDH

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1105	RSL	Rate of return on Stock of Liabilities	%	HMT	-

Model equation: Behavioural Equation

RSL = 0.45 + 0.11*RS + 0.55*RL + 0.05 * (100 * FYCPR / GDPM* - 17)
(1.1) (2.7) (7.5) (0.8)

+ 0.06 { (PBRENT) / (RXD / PGDP /100) }
(1.2)

Estimation period: 1990Q1 to 1999Q4

R^2 = 0.90 DW = 1.5
SE = 0.48 Normality Chi^2_2 = 1.7
LM F (4,31) = 0.60 Hetereo F(1,31) = 0.8

Comment

The rate of return on liabilities is conditioned on UK short and long term interest rates, profitability (the ratio of gross trading profits to nominal GDP), and the real price of oil in sterling terms.

No.	Name	Description	Unit	Source	Identifier
1106	RSA	Rate of return on Stock of Assets	%	HMT	-

Model equation: Behavioural Equation

RSA = RSL + 0.09 * (ROSHT – RS) + 0.45 * (ROLT -RL)
(-) (3.3)

Estimation period: 1990Q1 to 1999Q4

R^2 = 0.31 DW = 0.72
SE = 0.67

Comment

The equation for the rate of return on assets models the margin over the liabilities rate of return as dependent on the margins between world and UK interest rates. Obtaining stable equations for the rates of return proved very difficult.

No.	Name	Description	Unit	Source	Identifier
1107	CIPD	IPD credits	£M	ONS	*8

*8 = HBOK-HHCC-HCEH-(CGGT-HCAT)

Model equation: Technical Relationship

CIPD = (RSA/100)*0.25*(SAS + SAS(-1))/2

Comment

IPD credits defined on a basis consistent with the asset stock definition. The coefficient of 0.00125 or 1/800 is derived as follows: as a simplification the quarterly rate of return is defined as one quarter of the annual rate of return; RSA is stored as 5 for example and not 0.05 and the CIPD flow relates to the average stock over the last two periods.

No.	Name	Description	Unit	Source	Identifier
1108	DIPD	IPD debits	£M	ONS	HBOL-HCEH-(CGGT-HCAT)

Model equation: Technical Relationship

DIPD = (RSL/100)*0.25*(SL + SL(-1))/2

Comment: IPD debits defined on a basis consistent with the liabilities stock variable.

No.	Name	Description	Unit	Source	Identifier
1109	CGCBOP	CG earnings on reserves: scoring in BoP	£M	ONS	HHCC

Model equation: Technical Relationship

diff(CGCBOP) = diff(CGC)

No.	Name	Description	Unit	Source	Identifier
1110	NIPD	Net inflow of IPD	£M	ONS	HBOM

Model equation: Technical Relationship (Identity)

NIPD = CIPD - DIPD + CGC

No.	Name	Description	Unit	Source	Identifier
1111	WEQPR	World equity prices: G6+Spain, GDP weighted	Index	OECD	-

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1112	ROLT	GDP weighted long-term interest rate: Euro11+US+Japan+Canada	%	OECD	-

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1113	EECOMPD	Employees compensation due abroad	£M	ONS	IJAI

Model equation: Technical Relationship

EECOMPD = 0.001687 * FYEMP

No.	Name	Description	Unit	Source	Identifier
1114	DRES	Changes to foreign currency reserves	£M	ONS	LTCV

Model equation: Exogenous variable

Comment: Drawings on or additions to official foreign currency reserves (inc. official borrowing).

No.	Name	Description	Unit	Source	Identifier
1115	ROSHT	GDP weighted 3 month interest rate: Euro11+US+Japan+Canada	%	OECD	-

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1116	ECUPO	Sterling/Euro exchange rate (Euros/£)	Number	ONS	THAP

Model equation: Technical Relationship

ECUPO = ((1.3725/(1-0.32))*(RX/100 - 0.32*RXD/1.7850))

Comment

This equation was derived from the approximation that RX=a* $/£ + (1-a)* non-dollar/£ where non-dollar = b*Euros + (1-b)*non-Euros. The Model equation (obtained using a grid search procedure over 1990-2005) uses weights of a=0.32 and b=1. The coefficients in the equation are affected by scaling factors for the base year of 1990.

No.	Name	Description	Unit	Source	Identifier
1117	RXE	Expected exchange rate	Number	ONS	AGBG(+1)

Model equation: Technical Relationship

Ln RXE = g Ln RX

Comment: See comment for RX (V1119).

No.	Name	Description	Unit	Source	Identifier
1118	M14GDP	GDP in Euro11+US+Japan+Canada	£M	OECD	-

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1119	RX	Sterling effective exchange rate	Index	ONS	BK67

Model equation: Behavioural Equation

$$\text{Ln RX} = \text{Ln}\left[\text{RXE}\left(1 + 0.0025 * \text{RS}\right)/\left(1 + 0.0025 * \text{ROSHT}\right)\right] + 0.24 * \text{CB}/(\text{GDPM}^* - \text{BPA}^*) - g\,(1 - g)^2\,\text{Ln}\,(\text{PXNO}/\text{WPG})$$

Comment

The exchange rate equation is based on an augmented uncovered interest parity condition with the risk premium being a function of terms in the ratio of the current balance to nominal GDP at factor cost and a proxy for the change in the (expected) inflation differential. The latter term arose from an equation that was estimated in real terms with the real interest rate being specified in ex-post terms.

The model may be simulated under the consistent expectations assumption in which the expected exchange rate (V1117) is set equal to the model's prediction. A simple backward looking equation is provided as an alternative to fully consistent expectations.

No.	Name	Description	Unit	Source	Identifier
1120	RXD	Sterling - dollar cross rate	Rate	ONS	AUSS

Model equation: Technical Relationship

RXD = 0.01830804* RX

Comment: RX equals 100 in January 2005 and averaged 101.01 over the period July 2004 to July 2005, with the $/£ exchange rate averaging 1.8493 over the same period.

No.	Name	Description	Unit	Source	Identifier
1121	CB	Current account Balance of Payments	£M	ONS	HBOP

Model equation: Technical Relationship (Identity)

CB = NIPD - TROD - (EECOMPD-EECOMPC)- (HHTA-HHTFA) - (ITA-CGITFA) -BENAB

- ECNET - GNP4 - (EUVAT+EUOT) + (EUSUBP+EUSUBPR+EUSF)

- 0.01*(XNO*PXNO + XS*PXS – MNOS*PMNOS + XOIL*PXOIL – MOIL*PMOIL)

No.	Name	Description	Unit	Source	Identifier
1122	EECOMPC	Employees compensation from abroad	£M	ONS	IJAH

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1123	EUSUBP	EU subsidies on products	£M	ONS	FKNG

Model equation: Technical Relationship

EUSUBP = g EUSUBP g ECUPO / ECUPO

Comment

This consists of total agricultural subsidies less subsidies on agricultural production i.e. setaside and credits from the European Coal and Steel Community (now largely zero), and a longer run of data can be found using the identifiers ZXIA-ZJZD+FHHS.

No.	Name	Description	Unit	Source	Identifier
1124	HHTFA	Household transfer receipts from abroad	£M	ONS	CGDO-NHRX-FLYE

Model equation: Technical Relationship

HHFTA = g HHFTA g RX / RX

No.	Name	Description	Unit	Source	Identifier
1125	HHTA	Household transfer payments abroad	£M	ONS	CGDS-FLVY -FHLS-FLVE

Model equation: Technical Relationship

HHTA = 0.007317 * WFP

Comment

This is largely remittances. Since an identifier for seasonally adjusted data is not available a seasonally adjusted series is obtained by residual.

No.	Name	Description	Unit	Source	Identifier
1126	EUKT	Capital transfer payments from EU	£M	ONS	GTTY

Model equation: Exogenous variable

EUKT = g EUKT

No.	Name	Description	Unit	Source	Identifier
1127	MIKTFA	Migrants capital transfers from abroad	£M	ONS	FHJC

Model equation: Exogenous variable

Ln MIKTFA = g Ln MIKTFA

No.	Name	Description	Unit	Source	Identifier
1128	MIKTA	Migrants capital transfers abroad	£M	ONS	FLWJ

Model equation: Exogenous variable

Ln MIKTA = g Ln MIKTA

No.	Name	Description	Unit	Source	Identifier
1129	CGKTA	CG capital transfers abroad	£M	ONS	FLWB

Model equation: Technical Relationship

CGKTA = 0.0452551 * KCGPSO

No.	Name	Description	Unit	Source	Identifier
1130	OPSKTA	Other Private Sector capital transfers abroad	£M	ONS	FLWI-FLWJ

Model equation: Exogenous variable

OPSKTA = g OPSKTA

No.	Name	Description	Unit	Source	Identifier
1131	EUSF	Receipts from EU Social Fund	£M	ONS	HHAD

Model equation: Technical Relationship

EUSF = g EUSF g ECUPO / ECUPO

No.	Name	Description	Unit	Source	Identifier
1132	NPAA	Net acquisitions of non-produced non-financial assets e.g. land.	£M	ONS	FHJL-FLWT

Model equation: Exogenous variable

NPAA = g NPAA

No.	Name	Description	Unit	Source	Identifier
1133	GNP4	UK fourth resource contribution to EU	£M	ONS	HCSO+HCSM

Model equation: Technical Relationship

GNP4 = 0.010*((GDPM£ + NIPD + EECOMPC - EECOMPD)/ECUPO(-4))

No.	Name	Description	Unit	Source	Identifier
1134	BENAB	Social security benefits paid abroad	£M	ONS	FLUK

Model equation: Technical Relationship

BENAB = 0.012 * CGSUB

No.	Name	Description	Unit	Source	Identifier
1135	CGITFA	CG tax receipts from abroad	£M	ONS	CGDN

Model equation: Technical Relationship

CGITFA = 0.0039380*TYEM

No.	Name	Description	Unit	Source	Identifier
1136	ITA	Tax payments abroad	£M	ONS	FLVE

Model equation: Technical Relationship

ITA = 0.0008641*WFP

No.	Name	Description	Unit	Source	Identifier
1137	EUSUBPR	EU subsidies on production	£M	ONS	FHLK

Model equation: Technical Relationship

EUSUBPR = g EUSUBPR g ECUPO / ECUPO

Comment

A longer run of data is available using the identifier ZJZD, see comment for V1123.

No.	Name	Description	Unit	Source	Identifier
1138	TRANC	Transfer credits	£M	ONS	IKBN

Model equation: Technical Relationship (Identity)

TRANC = EUSUBP + HHTFA + EUSF + CGITFA + EUSUBPR - ECNET + INSURE

No.	Name	Description	Unit	Source	Identifier
1139	TRAND	Transfer debits	£M	ONS	IKBO

Model equation: Technical Relationship (Identity)

TRAND = TROD + EUVAT + EUOT + HHTA + GNP4 + BENAB + ITA + INSURE

No.	Name	Description	Unit	Source	Identifier
1140	TRANB	Transfers balance	£M	ONS	IKBP

Model equation: Technical Relationship (Identity)

TRANB = TRANC - TRAND

Comment

The transfers variables have been included primarily as a check on the data.

No.	Name	Description	Unit	Source	Identifier
1141	INSURE	Non-life insurance claims & premiums	£M	ONS	NHRX+FLVY

Model equation: Exogenous variable.

Comment – This occurs as both a debit and a credit but these are defined to be equal.

No.	Name	Description	Unit	Source	Identifier
1142	CB%	Current account Balance of Payments, % GDP	%	ONS	AA6H

Model equation: Technical Relationship (Identity).

CB% = (CB/GDPM£)*100

No.	Name	Description	Unit	Source	Identifier
1143	NAFROW	Net lending by Rest of the World	£M	ONS	RQCH

Model equation: Technical Relationship (Identity).

NAFROW = - (CB + (EUKT + MIKTFA) - (CGKTA + MIKTA + OPSKTA) + NPAA)

GROUP TWELVE: PUBLIC COPORATIONS & PUBLIC SECTOR TOTALS

This group covers expenditure and receipts relating to Public Corporations, capital consumption split by CG, LA and PC sectors, the public sector aggregates (including those on current receipts and expenditure, investment and the financial transactions), and public sector net wealth.

No.	Name	Description	Unit	Source	Identifier
1201	KPSPC	PC capital transfers from Private Sector	£M	ONS	ADSE

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1202	IPC£	PC Gross Fixed Capital Formation	£M	ONS	ANNQ

Model equation: Technical Relationship

IPC£ = ((0.5042*APH/1.1122 + (1-0.5042)*PI)*(PCLEB) + PI*0.0348*IBUS) / 100

*W PI = (PIF-0.08424*APH/1.1122)/(1-0.08424)

Comment

PCs gross fixed capital formation (GFCF) at current prices is determined by quasi-identity in common with PNFCs and households, see comment for V0313.

No.	Name	Description	Unit	Source	Identifier
1203	IBPC	PC increase in stocks	£M	ONS	DHHL

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1204	OSPC	PC Gross Operating Surplus	£M	ONS	NRJT

Model equation: Technical Relationship

OSPC = 0.025 * OS

Comment

PCs gross operating surplus is assumed to be proportional to the whole economy operating surplus.

No.	Name	Description	Unit	Source	Identifier
1205	MFTPC	PC misc. financial transactions	£M	ONS	ANVQ+NCXS +ANVU

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1206	DIPRPC	PC interest receipts from Private Sector	£M	ONS	GVHG

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1207	KGLAPC	Capital grants from LA to PC	£M	ONS	ADCF

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1208	DVPCLA	PC dividend payments to LA	£M	ONS	ZYHZ

Model equation: Technical Relationship

DVPCLA = g DVPCLA * (OSPC / g OSPC)

No.	Name	Description	Unit	Source	Identifier
1209	KCGPC	PC capital grants from CG	£M	ONS	-ANND-NMGR-NMGT

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1211	DIRPC	PC debt interest receipts	£M	ONS	GVHH

Model equation: Technical Relationship (Identity)

DIRPC = DIPRPC + DICGPC + DILAPC

No.	Name	Description	Unit	Source	Identifier
1212	DIPCOP	PC debt interest payments to overseas and Private Sectors	£M	ONS	GZSO

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1213	DVPCCG	PC dividend payments to CG	£M	ONS	ZYHY

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier

1214	PUBSTPD	Public Sector taxes on production	£M	ONS	NMYE

Model equation: Technical Relationship

PUBSTPD = - EUVAT + TSD +VREC + EXDUTAC + TXALC + TXFUEL + TXTOB + OPT

+ TXMIS + NNDRA + XLAVAT + LAVAT + LAPT - CCLACA

No.	Name	Description	Unit	Source	Identifier
1215	TYPCO	PC onshore corporation tax payments	£M	ONS	FCCS

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1217	PFTC	Pension fund tax credits	£M	ONS	-CFGS

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1218	FCACA	FINCOs Accruals Adjustment	£M	ONS	DKHH+ZYBE

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1219	PCCON	Total PC capital consumption	£M	ONS	NSRM

Model equation: Technical relationship

PCCON = 0.0156 * (IPC + g PCSTOCK * PTFE/g PTFE)

PTFE = TFE£/TFE

if $T \geq TZ$ (1991Q1)

Comment: All of public corporations capital consumption is trading.

No.	Name	Description	Unit	Source	Identifier
1220	KPCPS	Capital grants from PCs to Private Sector	£M	ONS	ZMLL

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1222	PCSTOCK	PC net capital stock	£M	ONS	CIXJ

Model equation: Technical relationship

PCSTOCK = (1 - 0.0156) (IPC + g PCSTOCK * PTFE/g PTFE)

PTFE = TFE*/TFE

if T ≥ TZ (1991Q1)

No.	Name	Description	Unit	Source	Identifier
1223	CGNB	CG net borrowing	£M	ONS	-NMFJ

Model equation: Technical relationship (Identity)

CGNB = KCGPC + DINVCG - PUBSTPD - TYPCO - PUBSTIW + CGWS + CGP + CGI*

+ NPACG + CGTSUB + CGSB + DICGOP + CGCGLA + KCGLA + ECNET

+ TROD + KCGPSO + CGOTR + DICGPC + DICGLA + EENIC + EMPNIC

+ DIRCG + INHT + NSROY - RNCG - DIVRCG - HHTCG - CGT - OHT + LAPT

- MOBREV - KPSCG - LANNDR

No.	Name	Description	Unit	Source	Identifier
1225	CGACADJ	CG accruals adjustments	£M	ONS	ANRT+ANRU +ANRV

Model equation: Technical relationship (Identity)

CGACADJ = CONACC + EXDUTAC + NICAC + INCTAC + ILGAC + MFTRAN

+ CGNDRAA + MOBACC

Comment: CG accruals adjustments include adjustments on conventional and indexed linked gilts, excise duties, PAYE, national insurance, NNDR and spectrum.

No.	Name	Description	Unit	Source	Identifier
1226	LANB	Local authority net borrowing	£M	ONS	-NMOE

Model equation: Technical relationship (Identity)

LANB = KLA + GCGLA + LASBHH + KCGLA + LAWS + LAPR + LAI£ + DILAPR

+ NPALA + LATSUB + DILACG + DILAPC + DIRLA + CC + KGLA – LAPT

– DVPCLA + LAOTRHH + LANNDR

No.	Name	Description	Unit	Source	Identifier

1227	TDEF	GG net borrowing: Maastrict definition	£M	ONS	MDUK

Model equation: Technical relationship (Identity)

TDEF = LANB + CGNB + SWAPS

No.	Name	Description	Unit	Source	Identifier
1228	PSCR	Public Sector Current Receipts	£M	ONS	ANBT

Model equation: Technical relationship (Identity)

PSCR = OSPC + CGTPC + DIRPC + DVPCCG + PUBSTD + PUBSTIW + OSGG + DICGPC

- DILAC + DIPCCG + DIPCLA + DICGLA + DILAPC + EENIC + EMPNIC + NSROY

+ OHT + DIRCG + DIRLA + INHT + CC +RNCG + DIVRCG + HHTCG + MOBREV

No.	Name	Description	Unit	Source	Identifier
1229	PSCE	Public Sector Current Expenditure	£M	ONS	ANLT

Model equation: Technical relationship (Identity)

PSCE = DIPCOP + CGWS + CGP + CGTSUB + CGSB + DICGOP + LASBHH + ECNET

TROD + RCGIM + LAWS + LAPR + DILAPR + CGOTR + RLAIM + LATSUB

+ LAOTRHH

No.	Name	Description	Unit	Source	Identifier
1230	PSCB	Public Sector Current Budget	£M	ONS	ANMU

Model equation: Technical relationship (Identity)

PSCB = PSCR - PSCE - DEP

No.	Name	Description	Unit	Source	Identifier
1231	PSGI	Public Sector Gross Investment	£M	HMT	-

Model equation: Technical relationship (Identity)

PSGI = KPSPC + IPC + IBPC + KGLAPC + DINVCG + CGI* + KLA + KCGPSO + LAI*

+ ASSETSA – KGLA + NPACG + NPALA - KPSCG + KPCPS

Comment

Public sector gross investment is defined as investment gross of depreciation and sales of fixed assets.

No.	Name	Description	Unit	Source	Identifier
1232	DEP	Public Sector Depreciation	£M	ONS	ANNZ

Model equation: Technical relationship (Identity)

DEP = RCGIM + RLAIM + PCCON

Comment: Identity sums total public sector depreciation.

No.	Name	Description	Unit	Source	Identifier
1233	PSNI	Public Sector Net Investment	£M	ONS	-ANNW

Model equation: Technical relationship (Identity)

PSNI = PSGI - DEP – ASSETSA

Comment: Public sector net investment is net of depreciation and assets sales.

No.	Name	Description	Unit	Source	Identifier
1234	PSLSFA	Public Sector Loans & Sales of financial assets	£M	ONS	ANSU+ANSV

Model equation: Technical relationship (Identity)

PSLSFA = LALEND + LAMISE + CGMISP – NPRIV + LCGOS + LCGPR + RPCBRO

No.	Name	Description	Unit	Source	Identifier
1235	PSACADJ	Public Sector accruals adjustments	£M	ONS	ANSW+ANSX +ANSY

Model equation: Technical relationship (Identity)

PSACADJ = MFTPC + CGACADJ - LAACADJ + RLABRO + RPCBRO

No.	Name	Description	Unit	Source	Identifier
1236	PSNW	Public Sector net wealth	£M	ONS	CGTY

Model equation: Technical relationship (Identity)

PSNW = PSTA + PSFA - PSFL

No.	Name	Description	Unit	Source	Identifier
1237	PUBSTIW	Public Sector taxes on Income & Wealth	£M	ONS	ANSO

Model equation: Technical relationship (Identity)

PUBSTIW = - TYPCO - PFTC + TYEM + PRT + TSEOP + TCINV + WINDT + CT + CGT

- NPISHTC + FCACA

No.	Name	Description	Unit	Source	Identifier
1238	PSTA	Stock of Public Sector Tangible Assets	£M	ONS	CGJA

Model equation: Technical relationship

PSTA = g PSTA * PIF / g PIF + 0.5 * PST (1 + GGID / g GGID)

PST = -KLA -KCGPSO - NPRIVP + KGLAPC + KCGPC + PSNI

No.	Name	Description	Unit	Source	Identifier
1239	PSFA	Stock of Public Sector Financial Assets	£M	ONS	NKFB+NPUP

Model equation: Technical relationship

PSFA = g PSFA

No.	Name	Description	Unit	Source	Identifier
1240	CGGILTS	Stock of CG gilts excluding linkers	£M	ONS	NIJI-V2027

Model equation: Technical relationship

CGGILTS = 0.5 * (-NPRIVP - dILGILT- (1 – g) NATSAV + PSNBNSA) +

(g CGGILTS + 0.5 * (-NPRIVP -d ILGILT -(1 – g) NATSAV + PSNBNSA))

* g CGRI / CGRI

CGRI = 1 + 0.01 * (0.67 * RL + (1 - 0.67)* RS)

No.	Name	Description	Unit	Source	Identifier
1241	OFLPS	Other Public Sector Financial Liabilities	£M	HMT	NKIF+NPVQ -NIJI-ACUR

Model equation: Technical relationship

OFLPS = g OFLPS

No.	Name	Description	Unit	Source	Identifier
1242	PSFL	Public Sector financial liabilities	£M	ONS	NKIF+NPVQ

Model equation: Technical relationship (Identity)

PSFL = CGGILTS + OFLPS + NATSAV + REVIG

No.	Name	Description	Unit	Source	Identifier
1243	LARENT	LA rent receipts & current transfers	£M	ONS	ANBX

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1244	PCRENT	PC rent receipts & current transfers	£M	ONS	ANCW

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1245	PCLEND	PC net lending to private sector & RoW	£M	ONS	ANRY

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1246	PCMISE	PC net acquisition of UK co. securities	£M	ONS	ANRZ

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1247	PCAC	PC accounts receivable/payable	£M	ONS	ANVQ

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1248	PCGILT	PC adjustment for interest on gilts	£M	ONS	NCXS

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1249	LAMFT	LA other financial transactions	£M	ONS	ANMW

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1250	CGACRES	CG accounts residual	£M	ONS	

ANRT- (RUSD + ACJY + (CYNX + RUTC + DKHE + DBKE) + (LNFP + CULD) – BKTC + (DKHH + ZYBE))

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1251	MKTIG	Market value of index-linked gilts	£M	HMT	

Model equation: Technical relationship

diff(MKTIG) = diff(REVIG)

No.	Name	Description	Unit	Source	Identifier
1252	CGLSFA	CG loans & sales of financial assets	£M	ONS	ANRH+ANRS

Model equation: Technical relationship (Identity)

CGLSFA = CGMISP - NPRIVP + LCGOS + LCGPR

No.	Name	Description	Unit	Source	Identifier
1253	CGRENT	CG rent & other current transfers	£M	ONS	ANBU

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1254	CGNDIV	CG interest & dividends from Private sector & RoW	£M	ONS	GVHE

Model equation: Technical relationship (Identity)

CGNDIV = DIRCG + DVPSCG - DILACG - DIPCCG

No.	Name	Description	Unit	Source	Identifier
1255	LANDIV	LA interest & dividends from Private sector & RoW	£M	ONS	GVHF

Model equation: Technical relationship (Identity)

LANDIV = DIRLA - DICGLA - DIPCLA

No.	Name	Description	Unit	Source	Identifier
1256	PCNDIV	PC interest & dividends from Private sector & RoW	£M	ONS	GVHG

Model equation: Technical relationship (Identity)

PCNDIV = DIPRPC

No.	Name	Description	Unit	Source	Identifier
1257	PSINTR	Public Sector interest & dividend reciepts	£M	ONS	ANBQ

Model equation: Technical relationship (Identity)

PSINTR = CGNDIV + LANDIV + PCNDIV

No.	Name	Description	Unit	Source	Identifier
1258	CGINTRA	CG net interest & dividends from Public Sector	£M	ONS	ANNY

Model equation: Technical relationship (Identity)

CGINTRA = DILACG + DIPCCG + DVPCCG - DICGLA - DICGPC

No.	Name	Description	Unit	Source	Identifier
1259	LAINTRA	LA net interest & dividends from Public Sector	£M	ONS	ANPZ

Model equation: Technical relationship (Identity)

LAINTRA = DIPCLA + DICGLA + DVPCLA - DILACG - DILAPC

No.	Name	Description	Unit	Source	Identifier
1260	PCINTRA	PC net interest & dividends from Public Sector	£M	ONS	ANRW

Model equation: Technical relationship (Identity)

PCINTRA = DILAPC + DICGPC - DIPCCG - DVPCCG - DIPCLA - DVPCLA

GROUP FOURTEEN: DOMESTIC FINANCIAL SECTOR

This group covers domestic interest rates, asset prices, the monetary aggregates, borrowing and the determination of household sector wealth and Private Non-Financial Corporations' (PNFCs) liquidity.

Interest rates and asset prices

The key interest rate variable is the three-month interbank rate, RS. There are four other identified nominal interest rates: the 20 year gilt yield, RL; the mortgage rate, RBM; the rate offered on 5 year National Savings certificates, RNS; and the rate on retail deposits, RDEP. There is also the real rate on long-term index-linked gilts, RILG. Equity prices, EQPR, are determined as a function of dividends and long-rates.

Monetary aggregates

The narrow and broad money aggregates, M0 and M4, are determined by behavioural equations. M0 is a function of nominal GDP at market prices, the retail deposit rate and a time trend. M4 is primarily determined by gross financial wealth and a term in the interest differential (the own rate of return less the return on alternative assets).

Borrowing

There are separate equations for persons' borrowing for house purchase and other borrowing. Borrowing for house purchase is a function of nominal gross physical wealth and the cost of housing finance. Other borrowing is determined by real disposable income, real net financial wealth and short rates. PNFCs' borrowing, an important determinant of net liquidity, is simply related to PNFCs' investment with a long-run unit elasticity and a term in the change in the effective exchange rate (which captures revaluation effects).

Household sector wealth

Household sector net wealth is obtained by quasi-identity given the household sector NAFA (derived from the income-expenditure side of the model), gross assets and revaluations. Household gross financial wealth is determined by identity as net wealth plus liabilities.

PNFCs' liquidity

PNFCs' gross liquid assets are obtained by quasi-identity given the flow of new borrowing, PNFCs' Net Acquisition of Financial Assets (NAFA) and exchange rate revaluations.

No.	Name	Description	Unit	Source	Identifier
1401	RS	UK three month inter-bank rate	%	ONS	AMIJ

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1402	RL	UK twenty year gilt yield	%	ONS	AJLX

Model equation: Behavioural equation

$$RL = g\,RL - 0.12 * g\,(1 - g^2)\,RL - 0.0621 * g\,(RL - RS)$$
$$(2.9) \qquad\qquad (-)$$

$$+ 0.23 * (1 - g)\,RS + [\,0.64 + 0.24\,g\,]\,(1 - g)\,ROLT$$
$$(7.1) \qquad\qquad (6.8) \quad (2.1)$$

$$- 6.6 * (1 - g)\,Ln\,RX - 0.86 * (1 - g^2)\,Ln\,EQPR - 0.039$$
$$(6.8) \qquad\qquad (2.5) \qquad\qquad (0.9)$$

Estimation period: 1976Q1 - 1999Q4

$R^2 = 0.74$ Normality $CHI^2_2 =$
SE = 0.35 Hetero F(1, 94) = 2.9
LM F(4, 85) = 1.8

Summary of Equation Properties

Static long-run solution:

RL = RS

Effect on RL of a 1% increase in:

	Q1	Q5	Q9	Long-run
Short Rate (RS)	0.23	0.37	0.50	1.00
World Long rate (ROLT)	0.64	0.63	0.50	0.00
Exchange rate (Ln RX)	-6.60	-4.60	-3.70	0.00
Equity Prices (Ln EQPR)	-0.86	-1.20	-1.00	0.00

Comment

This equation is based on an arbitrage relationship between long and short-term interest rates. The dynamic term in the exchange rate attempts to capture anticipations of future inflation. Freely estimated, the error correction term was small albeit correctly signed and statistically significant. However, the implied dynamics were very slow and as a consequence a larger coefficient was validly imposed.

No.	Name	Description	Unit	Source	Identifier
1403	RDEP	Building Society deposit rate	%	ONS	AJNV

Model equation: Technical relationship

RDEP = (RMORT - 1.04)

No.	Name	Description	Unit	Source	Identifier
1404	RNS	Rate of return on National Savings	%	ONS	XACX/ACUA

Model equation: Behavioural equation

RNS = g RNS + 0.493 * (1 - g) (RDEP * g (1 - TPBRZ))
(6.9)

+ 0.110 * g (RDEP g (1 - TPBRZ) - RNS) – 0.042
(2.5) (0.9)

Summary of Equation Properties

Static long-run solution:

RNS = RDEP * (1 - TPBRZ) - 0.042

Comment: The return on national savings is determined as a function of building society rates, which may be thought of as representing the closest competitor in the retail deposits market. RNS is a post-tax rate. The data is an annualised rate of return from a 2-quarter moving average.

No.	Name	Description	Unit	Source	Identifier
1405	RMORT	Building Soc. mortgage rate (repayment)	%	ONS	AJNL

Model equation: Behavioural Equation

RMORT = RS + 0.6

No.	Name	Description	Unit	Source	Identifier
1406	EQPR	Equity price index (FT all-share)	Index	ONS	HSEL

Model equation: Behavioural Equation

Ln EQPR = g Ln EQPR - 0.24 * Ln (g EQPR/NDIVHH) - 0.095 * Ln RL
(3.9) (2.1)

- 0.069 * DD9934 – 0.22 * D874 + 0.33
(1.3) (3.4) (2.9)

R^2 = 0.27
SE = 0.075
LM F(4,42) = 1.3
Normality CHI^2_2 =
Hetero F(1,49) = 3.5
Estimation Period: 1987Q2 - 1999Q4

Summary of Equation Properties

Static long-run solution:

Ln EQPR = Ln NDIVHH - 0.4 Ln RL + constant

Effect on EQPR of a 1% increase in:

	Q1	Q5	Q9	Long-run
Dividends (Ln NDIVCO)	.24	0.75	0.94	1.00
Long rate (Ln RL)	-0.095	-0.30	-0.36	-0.40

Comment: The equation for equity prices is based on the present value principle, with equity prices being related to dividends and the long rate. The long run elasticity with respect to dividends is imposed at unity. This restriction was data acceptable.

No.	Name	Description	Unit	Source	Identifier
1407	RILG	Real interest rate on index linked gilts	%	HMT	-

Model equation: Behavioural equation

RILG = 0.30082*((0.60*RS + (1-0.60)*RL) – (ratio4(PR)*100-100))
(8.0) (3.1)

+ 1.6229 + 0.64108*ifle(199702)
(7.9) (3.0)

Comment: The nominal interest rate is taken to be an appropriately weighted average of long and short rates; and the term in inflationary expectations necessary to convert to a real rate is modelled simply by annual RPI inflation. The technical relationship shown is the error-correction term from a freely-estimated ARDL(2) model over the period 1976Q4-2005Q2 with the functional form shown imposed; 5 observations were dummied.

No.	Name	Description	Unit	Source	Identifier
1408	M0	Notes & coins in circulation outside BoE	£M	ONS	AVAB

Model equation: Behavioural Equation

$$\text{Ln M0} = \text{Ln PGDP} + g\,\text{Ln}(\text{M0/PGDP}) + \underset{(2.5)}{0.20 * g(1-g)\,\text{Ln}(\text{M0/PGDP})}$$

$$- \underset{(4.0)}{0.1 * g\,\text{Ln}(\text{M0/GDPM*})} + \underset{(4.9)}{0.33 * (1 - 2g + g^2)\,\text{Ln GDPM}}$$

$$- \underset{(6.0)}{0.004 * g\{\text{RDEP} * g(1 - \text{TPBRZ})\}}$$

$$- \underset{(3.7)}{0.00086 * \min(28 + T, 128)} - \underset{(3.6)}{0.073} + \underset{(2.4)}{0.019 * \text{D994}}$$

Estimation period: 1975Q2 to 1999Q4

$R^2 = 0.429$ DW = 2.0
SE = 0.008 Normality $CHI^2_2 = 4.0$
LM F(4,88) = 0.57 Hetero F(1,97) = 0.05

Summary of Equation Properties

Static long-run solution:

$$\text{Ln M0} = \text{Ln PGDP} + \text{Ln GDPM} - 0.04 * \text{RDEP} - 0.0086 \min(T + 28, 128) + \text{constant}$$

Effect on M0 of a 1% increase in:

	Q1	Q5	Q9	Long-run
Real GDP (GDPM)	0.33	0.36	0.63	1.00
GDP deflator (PGDP)	1.00	1.00	1.00	1.00
Deposit rate* (RDEP	0.00	-0.02	-0.03	-0.040

* Semi elasticity i.e. 1 per cent point change

Comment

M0 is conditioned on the market price GDP deflator, real GDP at market prices, the deposit rate and a time trend. Static homogeneity in prices and real GDP is imposed in the long run. The time trend is truncated in 1995q1 reflecting the slow down in the decline of velocity.

Following reforms to the Bank of England's money market operations, production of M0 data discontinued from May 2006. Hence narrow money i.e. M0 is defined here as notes & coins in circulation outside the Bank of England and excludes banks' operational deposits that were formerly included in M0.

No.	Name	Description	Unit	Source	Identifier
1409	NFWPE	Household sector Net Financial Wealth	£M	ONS	NZEA

Model equation: Technical relationship (Identity)

$$\text{NFWPE} = - g\,\text{LHP} - g\,\text{OLPE} - \text{UNIDHH} + \text{NAFHH} +$$

[0.36*EQPR/g EQPR + (0.06*WEQPR/g WEQPR + 0.02*g ROLT/ ROLT) * RXREV

+ 0.11 * g RL/ RL + 0.07 * PGDP/ g PGDP + 0.38] * g (NFWPE + LHP + OLPE)

RXREV = 0.43 * g RXD/RXD + 0.57 * g RX/RX

Comment

Household sector net financial wealth is obtained by identity by cumulating the personal sector net acquisition of financial assets (determined from the income-expenditure side of the model) and revaluations after subtracting household sector unidentified transactions.

No.	Name	Description	Unit	Source	Identifier
1410	M4	M4 (end period), (FYSA)	£M	ONS	AUYN

Model equation: Behavioural Equation

Ln M4 = Ln PCE + g Ln (M4/PCE) - 0.043 * g Ln (M4/GFWPE) + 0.31 * g (1-g) Ln (M4 / PCE)
(2.1) (3.0)

+ 0.58 * (1 - g) Ln GDPM + 0.0028 * (RS - 0.5 * (RS + RL))
(1.8) (2.0)

- 0.052 *D973 - 0.013 - 0.000236 * (28 + T)
(5.7) (0.9) (1.9)

Estimation Period: 1986Q1 - 1999Q4

R^2 = 0.63
SE = 0.0086
LM F(4,45) = 1.1
Normality CHI^2_2 = 2.3
Hetero F(1,54) = 0.02

Summary of Equation Properties

Static long-run solution:

LnM4 = Ln GFWPE + 0.065 * [RS - 0.5 * (RS + RL)] - .0054 * (28 + T) + constant

Effect on M4 of a 1% increase in:

	Q1	Q5	Q9	Long-run
Consumers' expenditure deflator (PCE)	1.00	0.79	0.53	0.000
Financial wealth (GFWPE)	0.00	0.21	0.39	1.000
GDPM	0.58	0.68	0.53	0.000
Interest rate differential (RS - 0.5 * (RS + RL))	0.003	0.017	0.028	0.065

Comment

The equation for M4 follows work carried out at NIESR and is based on a simple static model in which the share of M4 in some measure of wealth (W) is determined by relative rates of return:

M4/W = f(RO - RA)

where RO and RA are the own and alternative rates of return.

In the model equation the alternative rate of return is proxied by an average of short and long rates. The simple static relationship is modified by the presence of a lagged dependent variable that allows for adjustment costs and a term in the growth rate of real GDP which proxies transactions demand.

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No.	Name	Description	Unit	Source	Identifier
1411	GFWPE	Household sector gross financial wealth	£M	ONS	NNML

Model equation: Technical relationship

GWFPE = NFWPE + LHP + OLPE

Comment: Household sector gross financial wealth is obtained by summing the stocks of financial wealth, households borrowing for house purchase (LHP) and households 'other' borrowing.

No.	Name	Description	Unit	Source	Identifier
1412	LHP	HH loans secured on dwellings	£M	ONS	NNRP

Model equation: Behavioural Equation

$$\begin{aligned}\text{Ln LHP} = {} & g \text{ Ln LHP} + \underset{(3.6)}{0.42}\, g\,(1-g) \text{ Ln LHP} - \underset{(2.6)}{0.006}\, g \text{ Ln UNUKP} \\ & - \underset{(4.8)}{0.052} * g \text{ Ln (LHP/GPW)} + \underset{(3.6)}{0.091} * (1-g) \text{ Ln (APH/PCE)} \\ & - \underset{(3.0)}{0.0017} * \text{RHF} + \underset{(4.7)}{0.33} + \underset{(5.3)}{0.018} * \text{D902} - \underset{(3.1)}{0.012} * \text{D884}\end{aligned}$$

Estimation Period: 1987Q3 to 1999Q4

$R^2 = 0.94$ DW = 2.2
SE = 0.003 Normality $CHI^2_2 = 2.5$
LM F(4,38) = 0.7 Hetero F(1,48) = 2.2

Summary of Equation Properties

Static long-run solution:

Ln LHP = Ln GPW - 0.033 * RHF - 0.11* Ln UNUKP + constant

Effect on LHP of a 1% increase in:

	Q1	Q5	Q9	Long-run
Gross physical wealth (GPW)	0.0000	0.0520	0.2410	1.000
Nominal interest on housing finance (RHF)	-0.0017	-0.0110	-0.0590	-0.033
Unemployment (UNUKP)	0.0000	-0.0380	-0.0590	-0.110

Comment

The equation for loans for house purchase conditions on gross physical wealth with a long-run unit elasticity and the interest rate on housing finance, with a long-run semi-elasticity of -3.3, and a dynamic term in real house prices.

No.	Name	Description	Unit	Source	Identifier
1413	OLPE	HH other financial liabilities	£M	ONS	NNPP-NNRP

Model equation: Behavioural equation

$$\text{Ln OLPE} = \text{Ln PCE} + g\,\text{Ln}(\text{OLPE}/\text{PCE}) + [0.37 + 0.21\,g]_{(2.9)\ (1.5)}(1-g)\,\text{Ln RHHDI}$$

$$- 0.29 * g\,\text{Ln}(\text{OLPE}/\text{PCE})_{(7.0)} - 0.0016 * g\,(\text{RS} - 100*(\text{PCE}/g^4\,\text{PCE} - 1))_{(1.8)}$$

$$- 0.09 * g\,\text{Ln UNUKP}_{(7.9)} + 2.2895_{(7.1)}$$

Estimation Period: 1987Q3 to 1999Q4

$R^2 = 0.60$ DW = 1.72
SE = 0.009 Normality $CHI^2_2 = 1.07$
LM F(4,40) = 0.40 Hetero F(1,48) = 0.09

Summary of Equation Properties

Static long-run solution:

$$\text{Ln OLPE} = \text{Ln PCE} - 0.0055 * [\text{RS} - 100 * (\text{PCE}/g^4\,\text{PCE} - 1)] - 0.31*\text{Ln UNUKP}$$

Effect on OLPE of a 1% increase in:

	Q1	Q5	Q9	Long-run
Real personal disposable income (RPDI)	0.37	0.17	0.04	0.00
Unemployment (UNUKP)	0.000	-0.23	-0.29	-0.31
Real short-term interest rates	0.000	-0.004	-0.005	-0.0055

Comment: The equation for other lending to persons is conditional on real interest rates and unemployment. Static homogeneity of degree one in consumer prices is imposed.

No.	Name	Description	Unit	Source	Identifier
1415	LIQIC	PNFCs' stock of gross liquid assets	£M	ONS	AIEL

Model equation: Technical relationship

LIQIC = NAFIC + (1 - g) BBIC + (1 + 0.18 * (RXVAL1 - 1)) g LIQIC

RXVAL1 = 0.2 * g RX/RX + 0.8 * g RXD/RXD

Comment

PNFCs' gross liquid assets are obtained by quasi-identity given the flow of new borrowing, their Net Acquisition of Financial Assets (NAFIC) and an exchange rate revaluation term.

No.	Name	Description	Unit	Source	Identifier
1416	BBIC	Bank lending to PNFCs (all currencies)	£M	ONS	NLBF+NLBG

Model equation: Behavioural equation

Ln BBIC = g Ln BBIC + 0.3142 * g (1 - g) Ln BBIC - 0.08188 * g Ln [BBIC/ (DINV* + ICC*)]
(2.8) (4.5)

+ 0.0401 * (1 - g) Ln (DINV* + ICC*) - 0.1936 * (1 - g) Ln RX + 0.2072
(1.4) (2.2) (4.7)

Estimation Period: 1980Q1 to 1994Q3

R^2 = 0.51
SE = 0.024
LM F(4,50) = 0.99
DW =
Normality CHI^2_2 = 0.63
Hetero F(1,57) = 7.8

Comment

BBIC is conditioned on a measure of PNFCs' expenditure, the sum of stockbuilding and investment in current prices, with a long-run unit elasticity and a term in the change in the effective exchange rate which captures revaluation effects.

No.	Name	Description	Unit	Source	Identifier
1417	UNIDPE	HH statistical adj. on financial account	£M	ONS	NZDV

Model equation: Exogenous variable

GROUP FIFTEEN: INCOME ACCOUNT

This group contains equations that determine the major components of household incomes: incomes from employment, self-employment incomes, dividend receipts and net interest receipts. Household sector saving is obtained by identity given total house expenditure in nominal terms, house disposable income and the net equity withdrawal from pension and life assurance funds. Company sector saving and net acquisition of financial assets are obtained by residual given the other financial balances.

No.	Name	Description	Unit	Source	Identifier
1501	WFP	UK wages & salaries (inc. HM forces)	£M	ONS	DTWM-ROYK

Model equation: Technical relationship

WFP = ADJW*PSAVEI*(EPS - ES + EOIL) + 0.049665*ERCG*ECG + 0.035689*ERLA*ELA

Comment

The WFP quasi-identity combines the various sectoral wage bills - see comment under V0702. WFP is the most important component of income from employment and the largest identified component of household income.

No.	Name	Description	Unit	Source	Identifier
1502	MI	Mixed income	£M	ONS	RNKX

Model equation: Behavioural equation

dlog(MI) = dlog(ES) - 0.066988 * log(MI(-1)/(ES(-1)*PSAVEI(-1)))
(2.3)

+ 0.3842 * (dlog(MI(-1))-dlog(ES(-1)) – 0.2071 + 0.052*(ifeq(199601) - ifeq(199602))
(4.5) (2.2) (5.4)

- 0.040964*(ifeq(200002) - ifeq(200003)) - 0.040736*(ifeq(200104) - ifeq(200201))
(4.3) (4.3)

Estimation Period: 1985Q1 - 2005Q3

R^2 = 0.43
SE = 0.014
LM F(4,59) = 0.90
DW = 1.5
Normality CHI^2_2 = 0.89
Hetero F(1,81) = 0.675

Static long-run solution:
Ln MI = Ln ES + Ln PSAVEI + constant

Effect on MI of a 1% increase in:

	Q1	Q5	Q9	Long-run
Private sector earnings (PSAVEI)	0.00	0.33	0.59	1.00

Comment

Note that mixed income covers sole traders. It excludes partnership income that is included in profits under ESA95. The equation links 'average mixed incomes' to the private sector average earnings index with a long run unit elasticity.

No.	Name	Description	Unit	Source	Identifier
1503	FYEMP	Total compensation of employees	£M	ONS	DTWM

Model equation: Technical relationship (Identity)

FYEMP = WFP + EMPSC

Comment

Total employment income is the sum of the wage and salary bill and all employers' social contributions, including imputed contributions.

No.	Name	Description	Unit	Source	Identifier
1504	EMPSC	Employers' social contributions	£M	ONS	ROYK

Model equation: Technical relationship (Identity)

EMPSC = EMPISC + CGASC + EMPNIC + EMPCPP

Comment: This variable covers all employers' social contributions including imputed contributions, and contributions to pension schemes.

No.	Name	Description	Unit	Source	Identifier
1505	SVHH	Households' (& NPISH) gross saving	£M	ONS	RPQL

Model equation: Technical relationship (Identity)

SVHH = HHDI - C£ + NEAHH

Comment

Household saving includes an adjustment for net equity in pension funds (NEAHH). This reflects the fact that the reserves of pension funds are treated as being owned by the household sector and that contributions to and pensions received from private funded schemes are treated as transfers in the secondary distribution of income account.

No.	Name	Description	Unit	Source	Identifier
1506	NAFHH	Net Acquisition of Financial Assets: HH	£M	ONS	RPZT

Model equation: Technical relationship (Identity)

NAFHH = SVHH + KGHH - IHH£ - DINVHH - VALHH - NPAHH

Comment: The identity for households' Net Acquisition of Financial Assets (NAFA) is simply the household sector capital account identity.

No.	Name	Description	Unit	Source	Identifier
1507	HHDI	HH (& NPISH) gross disposable income	£M	ONS	RPHQ

Model equation: Technical relationship (Identity)

HHDI = MI + FYEMP - EMPSC - EESC - TYWHH - PIPHH - EECOMPD + EECOMPC

+ NMTRHH + SBHH + PIRHH + OSHH + HHISC - HHSB

Comment: Household Disposable Income (HHDI) in current prices is obtained by summing the components of gross incomes and deducting taxes and social contributions.

No.	Name	Description	Unit	Source	Identifier
1508	RHHDI	HH (& NPISH) real HHDI	£M, CVM	ONS	NRJR

Model equation: Technical relationship (Identity)

RHHDI = 100 * HHDI / PCE

Comment: Real household disposable income is defined as HHDI deflated by the consumer's expenditure deflator (PCE).

No.	Name	Description	Unit	Source	Identifier
1509	NAFCO	Net Acquisition of Financial Assets: Co's	£M	ONS	RPYN+RQBV

Model equation: Technical relationship (Identity)

NAFCO = -NAFHH + PSNBCY + CB - MIKTA - OPSKTA - CGKTA + NPAA + SDE - SDI

Comment: Companies' net acquisitions of financial assets i.e. financial surplus or deficit Companies' is obtained by residual given the other sectoral NAFAs.

No.	Name	Description	Unit	Source	Identifier
1510	GTPIC	Gross PNFC trading profits (inc. NS)	£M	ONS	CAGD+CAED

Model equation: Technical relationship

GTPIC = FYCPR

Comment: The equation is designed so that it computes as a residual: gross trading profits of financial companies. Since these are negative in the National Accounts, GTPIC is larger than FYCPR (V1618).

No.	Name	Description	Unit	Source	Identifier
1511	NAFFC	Net Acquisition of Fin. Assets: FINCOs	£M	ONS	RPYN

Model equation: Exogenous variable

Comment: Financial companies' (FINCOs) net acquisition of financial assets i.e. financial surplus or deficit is exogenous and determines the PNFC NAFA by residual.

No.	Name	Description	Unit	Source	Identifier
1512	NAFIC	Net Acquisition of Fin. Assets: PNFCs	£M	ONS	RQBV

Model equation: Technical relationship (Identity)

NAFIC = NAFCO - NAFFC

No.	Name	Description	Unit	Source	Identifier
1513	EMPCCP	Employers' contributions to funded pension schemes	£M	ONS	RNNG

Model equation: Technical relationship

ratio(EMPCPP) = ratio(WFP)

Comment: Employer's contributions to private pension schemes and a component of adjustment for change in net equity in pension funds.

No.	Name	Description	Unit	Source	Identifier
1514	NDIVHH	HH & NPISH dividend receipts	£M	ONS	NRKU

Model equation: Behavioural equation

$$\text{Ln NDIVHH} = \underset{(4.9)}{(1 - 0.142) * g \text{ Ln NDIVHH}} - \underset{(4.7)}{0.2658 * g (1 - g) \text{ Ln NDIVHH}}$$

$$+ \underset{(4.9)}{0.1420 * \text{Ln } 0.0833 [(1 + 3g^2 + 2g^4) (1 + g) \text{ YNODI}]} - \underset{(3.5)}{0.2511 * \text{Ln THETA}}$$

$$+ \underset{(1.6)}{0.1918 * (1- g)^2 (\text{LIQIC / BBIC})} + \underset{(9.7)}{0.5258 * \text{SWCHD}}$$

$$+ \underset{(7.8)}{0.4720 * \text{PBD}} + \underset{(2.4)}{0.0495 * \text{C872}} - \underset{(-)}{0.3005}$$

Estimation period: 1964Q2 to 1993Q4 (recalibrated)

$R^2 = 0.648$	DW = 2.17
SE = 0.085	Normality $CHI^2_2 = 4.34$
LM F(4) = 1.16	Hetero $CHI^2_1 = 0.23$

YNODI =	NDIVHH + SAVCO * THETAN
THETAN =	(1 - TPBRZ * THN)
THN = 1	from 1966Q4 - 1973Q1 (classical corporation tax system), zero otherwise
THETA =	THETAN / [1 - 0.1 * TG / (0.1 + 0.01 (RS + 2) (1 - TPBRZ))]
TG = 0.3	from 1965Q4 - 1982Q1, zero otherwise

Static long-run solution:

$$\text{Ln NDIVHH} = \text{Ln YNODI} - 1.77 \text{ Ln THETA} + \text{constant}$$

Effect on NDIVHH of a 1% increase in:

	Q1	Q5	Q9	Long-run
Long-run Max. level of dividends (YNODI)	0.012	0.229	0.517	1.00
Tax preference ratio (THETA)	-0.251	-0.805	-1.162	-1.77
PNFCs' net liquidity (LIQIC/BBIC)	0.192	-0.009	-0.007	0.00

Comment

The basic idea underlying this equation is that companies have a target or equilibrium level of dividend payments towards which they adjust. The target level of dividends is assumed to be a function of the maximum possible level of net dividends payable by companies, YNODI. The rather complicated distributed lag on this term arises from the fact that any quarter's actual dividend payments comprise of final dividend payments of companies with accounting years ending two quarters previously and interim payments from companies with accounting periods ending in a particular quarter, and that on average companies' total dividend payments are allocated in proportions 1/3 : 2/3 between final and interim payments.

THETAN represents the opportunity cost of marginal retained earnings in terms of dividends foregone. This takes the value of zero from 1973Q2 onwards. THETA is the tax preference ratio defined as the opportunity cost of a marginal increase in retained earnings in terms of net dividends foregone with an allowance for the effective tax rate on capital gains (TG). The dummy variables attempt to capture the effects of regime change associated with dividend control. This equation was recalibrated on the adoption of ESA95.

Further Documentation

CSRG(86) paper by Chris Kelly, MRG (94) 22, MSG (95) 14

No.	Name	Description	Unit	Source	Identifier
1515	STIPIC	PNFCs' Short-Term Interest Payments	£M	HMT	-

Model equation: Technical relationship

```
STIPIC =      ((1 + (RS + 1.5)/100 )^(1/4) - 1)*(BBIC(-1)-IDBILL(-1))

            +      0.8*((1 + (RS - 0.3)/100 )^(1/4) - 1)*IDBILL(-1) ;
```

No.	Name	Description	Unit	Source	Identifier
1516	WYQC	Withdrawals of income from quasi corporations	£M	ONS	NBOJ

Model equation: Technical relationship

```
WYQC =    0.11791*(GTPIC-NSGTP)
```

Comment

Partnership income is a component of profits and hence defined as a component of property income under ESA95.

No.	Name	Description	Unit	Source	Identifier
1517	DIRHH	Total interest receipts of households	£M	ONS	ROYM

Model equation: Technical relationship

DIRHH = 0.5705*M4(-1)*((1+(RDEP - 0.51)/100)^.25-1) + DIPNSC

+ 0.1163*DIPLDC + 0.004711*CIPD ;

No.	Name	Description	Unit	Source	Identifier
1518	DIPHH	Total interest payments by households	£M	ONS	ROYU

Model equation: Technical relationship

DIPHH = LHP(-1)*((1 + RMORT/100)^0.25 - 1)

+ OLPE(-1)*((1 + (RS + 3.32)/100)^0.25 - 1) + 0.011014*DIPD

Comment

The main components of household sector interest payments are those arising from borrowing for house purchase (LHP), and those arising from bank and other borrowing (OLPE).

No.	Name	Description	Unit	Source	Identifier
1519	KGHH	Households net capital transfers	£M	ONS	RPVO+RPVP-RPVS-RVPT

Model equation: Technical relationship

KGHH = - INHT + (MIKTFA – MIKTA) + 0.95*KLA + 0.55*KCGPSO + 0.4*EUKT

No.	Name	Description	Unit	Source	Identifier
1520	NEAHH	Adjustment for the change in net equity of HH pension funds	£M	ONS	RPQJ

Model equation: Technical relationship (Identity)

NEAHH = EMPCPP + EECPP - OSB

Comment: This variable represents contributions to less payments from private sector pension funds. See comment under V1505.

No.	Name	Description	Unit	Source	Identifier
1521	SAVCO	Company saving: PNFCs + FINCOs	£M	ONS	RPKZ+RPPS

Model equation: Technical relationship (Identity)

SAVCO = NAFCO + KGHH - DINVHH - DINVCG + DINV£ + VAL£ - VALHH - NPAHH

+ IF£ - KLA - KGPSO - LAI£ - CGI£ + INHT + KGLA - EUKT - MIKTFA + MIKTA

+ CGKTA + OPSKTA - NPAA - IPC - IBPC - NPACG - NPALA - IH£

Comment: Company sector savings are obtained by residual given the savings of other sectors.

No.	Name	Description	Unit	Source	Identifier
1522	NMTRHH	Net misc. transfer receipts of households	£M	ONS	RPHO-RPID

Model equation: Technical relationship

NMTRHH = LAOTRHH + (CGOTR-HHTCG) + (HHTFA-HHTA) + (EUSF-GNP4) +
+ 0.003028*FYCPR

No.	Name	Description	Unit	Source	Identifier
1523	EMPISC	Employers' imputed social contributions	£M	ONS	NQDK

Model equation: Technical relationship

EMPISC = HHISC + LASC + CGISC + 0.0036496*WFP

No.	Name	Description	Unit	Source	Identifier
1524	APIIH	Attributed Property Income of Insurance policy Holders	£M	ONS	ROYP

Model equation: Technical relationship

APIIH = 0.91*(IILG + ILGUP) + 0.02805*((1+(RDEP+0)/100)^.25-1)*M4(-1)

+ 0.7700*DIPLDC + 0.1472*CIPD + (1 - 0.2066)*NDIVHH

No.	Name	Description	Unit	Source	Identifier
1525	EESC	Employees social contribution	£M	ONS	RPHX+RPHY

Model equation: Technical relationship (Identity)

EESC = EESCLA + EENIC + EECPP + EESCCG

No.	Name	Description	Unit	Source	Identifier
1526	SBHH	Household social benefits	£M	ONS	RPHL

Model equation: Technical relationship (Identity)

SBHH = EMPISC + OSB + CGSB + LASBHH + EESCLA + CGASC + EESCCG

+ EUSF - BENAB + HHSB - HHISC

No.	Name	Description	Unit	Source	Identifier
1527	TYWHH	Household current taxes on income and wealth	£M	ONS	RPHS+RPHT

Model equation: Technical relationship (Identity)

TYWHH = TYEM + OHT + TSEOP + CC + CGT – 0*CGITFA + 0*ITA - NPISHTC

No.	Name	Description	Unit	Source	Identifier
1528	PIRHH	Household receipts of property income	£M	ONS	ROYL

Model equation: Technical relationship

PIRHH = NDIVHH + WYQC + DIRHH + APIIH

Comment: The residual on this equation is household receipts of rent on land and sub-soil assets.

No.	Name	Description	Unit	Source	Identifier
1529	PIPHH	Household payments of property income	£M	ONS	ROYT

Model equation: Technical relationship

PIPHH = DIPHH

Comment: The residual on this equation is household payments of rent on land and sub-soil assets.

No.	Name	Description	Unit	Source	Identifier

1530	OSB	HH private funded social benefits (pensions)	£M	ONS	RNLL

Model equation: Technical relationship

OSB = g OSB * PCE / g PCE

No.	Name	Description	Unit	Source	Identifier
1531	NPISHTC	NPISH tax credits	£M	ONS	-CFGW

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1532	HHSB	Household social benefits	£M	ONS	RPIA

Model equation: Technical relationship

HHSB = 2 * HHISC

No.	Name	Description	Unit	Source	Identifier
1533	HHISC	Household imputed social contributions	£M	ONS	RVFH

Model equation: Technical relationship

HHISC = 0.0008910 * WFP

No.	Name	Description	Unit	Source	Identifier
1534	EECPP	Employees' pension contributions	£M	ONS	RNNN

Model equation: Technical relationship

EECPP = APIIH

Comment

The residual on this equation includes management fees and other expenses charged against employees' contributions.

No.	Name	Description	Unit	Source	Identifier
1540	SY	Households' saving ratio	£M	ONS	NRJS

Model equation: Technical relationship

SY = 100*(SVHH/(NEAHH+HHDI))

GROUP SIXTEEN: GROSS DOMESTIC PRODUCT IDENTITIES

No.	Name	Description	Unit	Source	Identifier
1601	BPA	Basic Price Adjustment at constant prices	£M, CVM	ONS	NTAO

Model equation: Technical relationship

BPA = BPA(-1)*ratio(GDPM)

BPA = 0.1303*C + 0.0553*CGG + 0.0600*IF + 0.0148*DINV + 0.0198*XG + 0.0284*XS

Comment

Previously the technical relationship for the Basic Price Adjustment at constant prices (BPA) was derived from the shares of taxes and subsidies in the expenditure components of GDP, the relationship is still shown for completeness and was updated from Tables 2 and 13 in the Input-Output Analytical Tables. However, it can be argued that the BPA has no effect on the volume of output and so the ONS now constrain GVA and GDP in chained volume terms to grow at the same rate – see Economic Trends February 2006.

No.	Name	Description	Unit	Source	Identifier
1602	TFE	Total Final Expenditure at constant prices	£M, CVM	ONS	ABMG

Model equation: Technical relationship (Identity)

TFE = CGG + C + DINV + VAL + IF + X

No.	Name	Description	Unit	Source	Identifier
1603	GDPM	GDP at constant market prices	£M, CVM	ONS	ABMI

Model equation: Technical relationship (Identity)

GDPM = TFE + SDE - M

No.	Name	Description	Unit	Source	Identifier
1604	GVA	GVA at constant basic prices	£M, CVM	ONS	ABMM

Model equation: Technical relationship (Identity)

GVA = GDPM - BPA

No.	Name	Description	Unit	Source	Identifier
1605	GVA£	GVA at current basic prices	£M	ONS	ABML

Model equation: Technical relationship (Identity)

GVA£ = GDPM£ - BPA£

No.	Name	Description	Unit	Source	Identifier
1606	PGVA	Gross Value Added deflator	Index	ONS	CGBV

Model equation: Technical relationship (Identity)

PGVA = 100 * (GVA£ / GVA)

No.	Name	Description	Unit	Source	Identifier
1607	GDPM£	GDP at current market prices	£M	ONS	YBHA

Model equation: Technical relationship (Identity)

GDPM£ = TFE£ - M£ + SDE

No.	Name	Description	Unit	Source	Identifier
1608	TFE£	Total Final Expenditure at current prices	£M	ONS	ABMF

Model equation: Technical relationship (Identity)

TFE£ = C£ + DINV£ + VAL£ + IF£ + CGG£ + X£

Comment: This identity aggregates the components of current price final expenditure.

No.	Name	Description	Unit	Source	Identifier
1609	BPA£	Basic Price Adjustment at current prices	£M	ONS	YBHA-ABML

Model equation: Technical relationship (Identity)

BPA£ = TXFUEL + TXTOB + TXMIS + TSD + VREC + TXALC + EXDUTAC +

XLAVAT + LAVAT + EUOT + NIS - EUSUBP - LASUBP - CGSUBP - CCLACA

No.	Name	Description	Unit	Source	Identifier
1610	PGDP	GDP at current market prices deflator	Index	ONS	YBGB

Model equation: Technical relationship (Identity)

PPGDP = 100 * (GDPM£ / GDPM)

No.	Name	Description	Unit	Source	Identifier
1611	NNSGVA	Non-North sea GVA	£M, CVM	ONS	UIZY

Model equation: Technical relationship (Identity)

NNSGVA = GVA - NSGVA

No.	Name	Description	Unit	Source	Identifier
1612	MANGVA	Manufacturing GVA	Index	ONS	CKYY

Model equation: Behavioural equation

$$\text{Ln MANGVA} = \underset{(2.1)}{\text{Ln GVA} + 0.25 * g^2 (1 - g) \text{Ln}(\text{MANGVA} / \text{GVA})} + \underset{(2.7)}{(1 - 0.149) * \text{Ln}(\text{MANGVA} / \text{GVA})} \underset{(2.5)}{- 0.93302} - \underset{(1.8)}{0.0406 * \text{Ln RPRICE}} \underset{(1.5)}{- 0.051 * (1-g) \text{Ln RPRICE}} \underset{(2.7)}{- 0.000403 * (T + 28)}$$

Estimation period: 1982Q1 to 2001Q4

$R^2 = 0.13$ DW = 1.83

SE = 0.008 Normality CHI^2_2 =

LM F(4,70) = 0.19 Hetero CHI^2_1=

Comment: This equation assumes that manufacturing share in GVA is determined by competitiveness and a time trend.

No.	Name	Description	Unit	Source	Identifier
1613	TPROD£	Total taxes less subsidies on production	£M	ONS	CMVL-NTAP

Model equation: Technical relationship (Identity)

TPROD£ = OPT + LAPT + NNDRA - CGSUBPR - LASUBPR - EUSUBPR

Comment

ESA95 draws a distinction between taxes on production (which are a component of gross value added) and taxes on products. The latter are in the adjustment to basic prices.

No.	Name	Description	Unit	Source	Identifier
1614	GDPI	GDP Income measure at market prices	£M	ONS	YBHA

Model equation: Technical relationship (Identity)

GDPI = GDPM£

No.	Name	Description	Unit	Source	Identifier
1615	CBIBC	CBI spare capacity indicator	Index	ONS	DCOW (DKCE)

Model equation: Technical relationship

$$\text{Ln CBIBC} = -1.9 - 5.5 * \text{Ln}\left[\text{GVA} / \left(\sum_{i=0}^{27} g^{i}\ \text{IPS}\right)\right] - 0.47 * \text{DUM871}$$

Comment: Coefficients obtained by calibration in the light of simulation properties.

No.	Name	Description	Unit	Source	Identifier
1617	OSHH	HH & NPISH Gross Operating Surplus	£M	ONS	CAEN

Model equation: Technical relationship (Identity)

ratio(OSHH) = ratio(GDPM£)

Comment

This relationship assumes that the household sector operating surplus (mostly imputed rent and rental incomes) rises in line with nominal GDP.

No.	Name	Description	Unit	Source	Identifier
1618	FYCPR	Gross trading profits of all companies	£M	ONS	CAGD+CAED +RITQ

Model equation: Technical relationship (Identity)

FYCPR = OS - OSHH - OSGG - OSPC - RENTCO + SA

Comment: Company sector profits are generated as a residual by subtracting the sectoral operating surpluses and company sector rental income from the whole economy operating surplus and adding stock appreciation.

No.	Name	Description	Unit	Source	Identifier

1619	SDE	Statistical discrepancy: GDP (E)	£M, CVM	ONS	GIXS

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
1620	OS	Whole economy Gross Operating Surplus	£M	ONS	ABNG

Model equation: Technical relationship (Identity)

OS = GDPI - FYEMP - MI - BPA£ - TPROD£ - SDI

No.	Name	Description	Unit	Source	Identifier
1621	TPROD	Total taxes less subsidies on production	£M, CVM	ONS	NTAI

Model equation: Technical relationship (Identity)

ratio(TPROD) = ratio(GVA)

No.	Name	Description	Unit	Source	Identifier
1622	MGDPNSA	GDP at market prices (NSA)	£M	ONS	BKTL

Model equation: Technical relationship (CY Identity)

MGDPNSA = GDPM£

Comment: The seasonality is handled via the adjustment i.e. residual set on this equation.

No.	Name	Description	Unit	Source	Identifier
1623	CGG	General Government final consumption	£M, CVM	ONS	NMRY

Model equation: Technical relationship (Identity)

CGG = 100 * (CGG£ / GGFCD)

Comment

General government final consumption volumes are endogenously determined given cash values for the components that are formally exogenous and the deflator. This is a departure from previous versions of the model in which volumes were formally exogenous. Departure from current practice has been caused by changes in the way that the data for volumes is constructed. The equation may be inverted using a type 2 fix so as to determine the cash components endogenously.

No.	Name	Description	Unit	Source	Identifier
1624	CGG£	General Government final consumption	£M	ONS	NMRP

Model equation: Technical relationship (Identity)

CGG£ = (CGWS + LAWS) + (CGP + LAPR) + (RCGIM + RLAIM)

No.	Name	Description	Unit	Source	Identifier
1625	RENTCO	Private Sector companies rental income	£M	ONS	DTWS+FCBW

Model equation: Technical relationship

RENTCO = RENTCO(-1) * ratio(GDPM£)

No.	Name	Description	Unit	Source	Identifier
1626	SDE£	Statistical discrepancy: GDP (E)	£M	ONS	GIXM

Model equation: Technical relationship

SDE£ = PGDP*SDE/100

No.	Name	Description	Unit	Source	Identifier
1627	SDI	Statistical discrepancy: GDP (I)	£M	ONS	GIXQ

Model equation: Technical relationship

SDI = SDI(-1)

No.	Name	Description	Unit	Source	Identifier
1629	GGFCD	GG Final Consumption Deflator	Index	ONS	100*(NMRP /NMRY)

Model equation: Technical relationship

Ln CGFCD = (1 - 0.38) * Ln (100 * (TFE*) / TFE) + 0 .38 * Ln [(ERLA) * (1 + EMPSC/WFP)]
(-) (12.0)

+ 0.001 * (T - 68) + 0.011 *Q1 - 0.09
(4.0) (1.8) (2.5)

Estimation period: 1987Q2 1999Q1

R^2 = 0.99
SE = 0.01
LM F(4,40) = 1.6
DW =
Normality CHI^2_2 =
Hetero CHI^2_1=

Comment

This equation assumes that the deflator for general government final consumption is determined by a weighted average of the TFE deflator and wage costs.

No.	Name	Description	Unit	Source	Identifier
1630	NOPROD	Non-oil productivity (2003=100)	Index	HMT	-

Model equation: Technical relationship

NOPROD = NNSGVA/(0.079771*(WFJ - EOIL))

No.	Name	Description	Unit	Source	Identifier
1631	BCCCU	BCC capacity indicator	Index	BCC	-

Model equation: Technical relationship

BCCCU = 100 - CBIBC

No.	Name	Description	Unit	Source	Identifier
1632	GNI£	Gross National Income at market prices	£M	ONS	ABMZ

Model equation: Technical relationship (Identity)

GNI£ = GDPM£ + NIPD+(EECOMPC-EECOMPD)+(EUSUBPR+EUSUBP)-(EUOT+EUVAT)

No.	Name	Description	Unit	Source	Identifier
1633	GFC	Gross Domestic Product at factor cost	£M, CVM	ONS	YBHH

Model equation: Technical relationship (Identity)

GFC = GVA - TPROD

No.	Name	Description	Unit	Source	Identifier
1634	TFEX	Total Final Expenditure ex. MTIC, CVM	£M, CVM	ONS	HMT

Model equation: Technical relationship (Identity)

TFEX = CGG + C + DINV + VAL + IF + (X-XMTIC)

No.	Name	Description	Unit	Source	Identifier
1635	TFEX£	Total Final Expenditure ex. MTIC, cash	£M, cash	ONS	HMT

Model equation: Technical relationship (Identity)

TFE£X = CGG£ + C£ + DINV£ + VAL£ + IF£ + (X£-XMTIC£)

GROUP TWENTY: PUBLIC SECTOR BORROWING, DEBT & FUNDING

The group includes the variables related to public sector borrowing, the central government borrowing requirement, the public sector deficit and public sector debt. Most of the variables in the group relate to the financing of the Central Government Net Cash Requirement (CGNCR). These variables are used as determinants in the forecast of interest payments and receipts.

Up to 1995/96 the government aimed to 'fund' the Public Sector Borrowing Requirement (PSBR), which meant that it aimed to sell enough National Savings and gilts of three or more years maturity to fund the PSBR, maturing debt and any net increase in the foreign currency reserves. There was a policy change in from 1996/7 to move away from 'funding the PSBR' to 'financing the CGBR' which means that the government aims to sell sufficient gilts, Treasury bills and National Savings products to finance the CGBR, maturing debt and any net increase in the foreign exchange reserves. The maturity structure of the debt is determined each year and published in the Debt Management Report (DMR). There was an announcement in April 1996 to the effect that net debt sales of less than three years maturity would not be counted towards the financing of the CGBR in 1996/7.

Financing the CGNCR

The model identifies the main instruments that contribute to the financing of the CGNCR: gilt sales (dGILT), index-linked gilt sales (dILGILT), National Savings (NATSAV), tax certificates (TXCERT), changes in the reserves (DRES), 'other external funding' (OXFPS), 'other CGBR financing' (OCGBR), coins (NCOIN), floating rate gilts (FLOATER), and Treasury bills (TBILLS).

Gilt sales are set as the residual source of CGNCR financing after all other forms of financing have been included. The excess of financing over the CGBR in any one year is defined as overfunding and accounted for by an appropriate setting of IDBILL in the following year (to force lower gilt sales). The opposite occurs with an underfund.

An Exogenous variable (REDGILT) allows for gilt redemptions. The revalued stock of index-linked gilts (REVIG) is also identified on the model.

Financing the LABR

Transactions that finance the Local Authority Borrowing Requirement (LABR) comprise: central government net lending to Las (LCGLA) and LA net market borrowing (LABRO). LA net market borrowing is set by residual in this identity. The change in LA net market borrowing is then split between monetary assets (SLAM) and monetary liabilities (SLAB), with the former being set by residual.

Financing PCNB

As with the LABR, the financing of the Public Corporations Net Borrowing (PCNB) is split between borrowing from central government, LCGPC and market borrowing (PCBRO) with the latter set by residual.

No.	Name	Description	Unit	Source	Identifier
2001	LABRO	LA market borrowing (net CG/PC debt)	£M	ONS	AAZK

Model equation: Technical relationship (Identity)

LABRO = LANB+ LALEND + LAMISE - LCGLA – LAAC

No.	Name	Description	Unit	Source	Identifier
2002	LCGLA	Net lending by CG to LAs (NSA)	£M	ONS	ABEC

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
2003	SLAB	Stock of LA market Borrowing (NSA)	£M	ONS	*9
			*9 = ADKA-ADKE-ADKF+ADHA-ADHC		

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
2004	SLAM	Stock of LA Monetary assets (NSA)	£M	ONS	ADNA-ADNJ

Model equation: Technical relationship (Identity)

diff(SLAM) = diff(SLAB) - LABRO ;

Comment

The model is set up so that a change in LA monetary assets is the residual source of finance.

No.	Name	Description	Unit	Source	Identifier
2005	SLAPO	Private Sector debt held by LAs (NSA)	£M	ONS	ADNJ+APEN+ RDLA

Model equation: Technical relationship (Identity)

diff(SLAPO) = LALEND

Comment

The equation calculates the change in the stock of private sector debt held by local authorities as equal to the amount of new net lending to the private sector carried out by the local authorities.

No.	Name	Description	Unit	Source	Identifier
2006	LCGPC	Net lending by CG to PCs (NSA)	£M	ONS	ABEI

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier

2007	SPCBCG	Stock of PC debt held by CG	£M	ONS	AKSG

Model equation: Technical relationship (Identity)

diff(SPCBCG) = LCGPC

Comment

The stock of PC debt is affected by privatisations and the creation of NHS trusts, which need to be allowed for in the residual setting.

No.	Name	Description	Unit	Source	Identifier
2008	SLCGPR	Stock of CG net lending to Private Sector	£M	ONS	RCPH+RDZU+ READ+RMAT

Model equation: Technical relationship (Identity)

diff(SLCGPR) = LCGPR

Comment

The corresponding flow variable is LCGPR (v952). However, sales of debt in privatised companies are treated as privatisation proceeds rather than net lending, so the stock has to be adjusted for these sales via the residual.

No.	Name	Description	Unit	Source	Identifier
2009	PCNB	PC Net Borrowing (NSA)	£M	ONS	-CPCM

Model equation: Technical relationship (Identity)

PCNB = TYPCO - OSPC + DIPCCG + DIPCLA + DVPCCG + DVPCLA - DIRPC - PCRENT

+ DIPCOP + IPC£ + IBPC - KCGPC - KGLAPC + KPCPS - KPSPC ;

No.	Name	Description	Unit	Source	Identifier
2010	PCBRO	PC borrowing other than from CG (net of CG & PC debt Purchases)	£M	ONS	AAZL

Model equation: Technical relationship (Identity)

PCBRO = PCNB - LCGPC + MFTPC

Comment

This variable represents borrowing by public corporations other than that directly from central government. This includes other public sector borrowing, borrowing from banks and building societies, the private sector and the overseas sector. The model is set up so that this is the residual source of finance.

No.	Name	Description	Unit	Source	Identifier
2011	COIN	Stock of currency (coins)	£M	ONS	NIIK

Model equation: Technical relationship

ratio4(COIN) = ratio4(M0)

Comment

The change in the level of coins is a CGNCR financing item – see Table 1.2A, Financial Statistics.

No.	Name	Description	Unit	Source	Identifier
2012	FLOATER	Stock of floating rate gilts	£M	BoE	-

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
2013	CGNCR	CG Net Cash Requirement (NSA)	£M	ONS	RUUW

Model equation: Technical relationship (Identity)

CGNCR = CGNB + CGLSFA + CGACADJ + LCGLA + LCGPC

Comment: This equation defines the central government net cash requirement.

No.	Name	Description	Unit	Source	Identifier
2014	PSNCR	Public Sector Net Cash Requirement (FYSA)	£M	ONS	RURQ

Model equation: Technical relationship (Identity)

PSNCR = PSNBNSA + PSLSFA + PSACADJ

No.	Name	Description	Unit	Source	Identifier
2015	CGOD	CG loans from monetary and financial institutions	£M	HMT	

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
2016	TXCERT	Tax certificates	£M	ONS	ACRV

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
2017	OXFPS	Other external funding of the CGNCR	£M	ONS	-AACL-AACM

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
2018	REDGILT	Redemptions of conventional gilts	£M	ONS	-ACOX-ACOY

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
2019	OCGBRF	Other CGNCR financing	£M	ONS	-AACH-AACI-ANTC

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
2020	IDBILL	Issue Dept holdings of commercial Bills	£M	HMT	-

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
2021	dILGILT	Net cash nominal issues of linkers	£M	ONS	ACOV

Model equation: Technical relationship

dILGILT = 0.29365*(REDGILT + dGILT - REDILGILT) + REDILGILT

Comment

Issues of index-linked gilts are assumed to be a fixed proportion of gross gilt issues. When an index-linked gilt ('linker') is redeemed the nominal value must be deducted from dILGILT. The accrued uplift paid on redemption must be input on the cash uplift variable (ILGCSH, V0953).

No.	Name	Description	Unit	Source	Identifier
2022	NATSAV	Stock of National Savings	£M	ONS	ACUA

Model equation: Technical relationship (Identity)

Ln NATSAV = Ln [(g NATSAV * GFWPE) / (g GFWPE)]

+ 0.030757 * { (1 – g) RNS(-2) - (1 – g) [RDEP (-2)* (1 – TPBRZ(-3))] }
(3.3)

Estimation Period: 1987Q1 to 2006Q3

R^2 = 0.31 DW = 1.75

SE = 0.0375 Normality CHI^2_2 = 0.608

LM F (4,71) = 0.33 Hetero F (1,77) = 0.068

Comment

The equation for national savings is a pure difference equation conditioned on personal sector liquid assets with a unit coefficient and the differential between the rates of return on building society and bank deposits and national savings. Three [1,-1] dummies are omitted from the equation shown above but are included in the model coding.

No.	Name	Description	Unit	Source	Identifier
2023	dGILT	Total net purchases of gilts (all sectors)	£M	ONS	ANTA

Model equation: Technical relationship (Identity)

dGILT = CGNCR - dCOIN - diff(TBILLS) - dNATSAV - diff(TXCERT)
- diff(CGOD) - OCGBRF - OXFPS - dOCGASS - DRES ;

Comment

This equation is a quasi-identity for the funding rule. Gilt sales are assumed to be the residual source of financing the CGNCR.

No.	Name	Description	Unit	Source	Identifier
2024	OCGASS	Other CG assets	£M	ONS	BKSM+BKSN

Model equation: Exogenous variable

Comment
These are the National Investment and Loans Office assets created by lending to LAs and PCs. Also contains CG bank and building society deposits.

No.	Name	Description	Unit	Source	Identifier
2025	TBILLS	Stock of Treasury Bills	£M	ONS	NIIV

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
2026	PSNBNSA	Public Sector Net Borrowing (NSA)	£M	ONS	-ANNX

Model equation: Technical relationship (Identity)

PSNBNSA = - PSCB + PSNI

No.	Name	Description	Unit	Source	Identifier
2027	REVIG	Stock of linkers (inc. revaluations)	£M	ONS	BKPL

Model equation: Technical relationship

REVIG = REVIG8 + REVIG3

Comment
Financial Statistics table 1.1D contains detail on the nominal amounts outstanding of central government sterling gross debt. REVIG cumulates issues of index-linked gilts (IGs) and revalues them in line with the RPI of seven months earlier. When an index-linked gilt is redeemed its effect on REVIG consists of two elements: the nominal value is captured through dILGILT but the accrued uplift paid on the residual must be subtracted via ILGCSH. REVIG itself consists of those linkers that are issued with an 8m lag on RPI and the newer issuance that has a 3m lag.

No.	Name	Description	Unit	Source	Identifier
2028	GGNB	General Government Net Borrowing	£M	ONS	-NNBK

Model equation: Technical relationship (Identity)

GGNB = CGNB + LANB

No.	Name	Description	Unit	Source	Identifier
2029	NPSD	Net Public Sector Debt	£M	ONS	BKQK

Model equation: Technical relationship

diff(NPSD) = PSNCR - ILGAC + diff(FLEASGG) + diff(FLEASPC)

No.	Name	Description	Unit	Source	Identifier
2030	PSNBCY	Public Sector financial deficit (CYSA)	£M	ONS	-RQBN-RPZD

Model equation: Technical relationship (Identity)

PSNBCY = -PSCB + PSNI

No.	Name	Description	Unit	Source	Identifier
2031	GGLIQ	General Government Liquid Assets	£M	ONS	BKQJ-BKSQ +BKSP-AIPD

Model equation: Technical relationship (Identity)

GGLIQ = OCGASS + LALIQ

No.	Name	Description	Unit	Source	Identifier
2032	GGGD	General Government Gross Debt	£M	ONS	BKPX

Model equation: Technical relationship (Identity)

diff(GGGD) = CGNCR + LABRO - ILGAC + diff(SRES) + diff(GGLIQ) + diff(FLEASGG)

No.	Name	Description	Unit	Source	Identifier
2033	LALIQ	LA liquid assets	£M	ONS	BKSO+BKQG

Model equation: Exogenous variable

No.	Name	Description	Unit	Source	Identifier
2034	dNATSAV	CGNCR financing: Natl Savings	£M	ONS	-AACE

Model equation: Technical relationship

dNATSAV = diff(NATSAV)

Comment: This variable accommodates the discrepancy between the CGNCR financing flow and the stock of National Savings (NATSAV) that is due to a small timing adjustment.

No.	Name	Description	Unit	Source	Identifier
2035	dOCGASS	CGNCR financing: Other CG assets	£M	ONS	ANTD+ANSZ

Model equation: Technical relationship

dOCGASS = diff(OCGASS)

Comment: This variable accommodates the discrepancy between the CGNCR financing flow and the stock of other CG assets (OCGASS) that is due to a small timing adjustment.

No.	Name	Description	Unit	Source	Identifier
2036	dCOIN	CGNCR financing: Coin	£M	ONS	-EYMW

Model equation: Technical relationship

dCOIN = diff(COIN)

Comment: This variable accommodates the discrepancy between the CGNCR financing flow and the stock of coin (COIN) due to scrapping.

No.	Name	Description	Unit	Source	Identifier
2037	REVIG3	Stock of 3m linkers (inc. revaluations)	£M	HMT	-

Model equation: Technical relationship

REVIG3 = REVIG3(-1)*RPI3 + (dILGILT - REDILGILT)*(1 - 0.25*ifle(200702))

*W RPI3 = (2/3*PR + 1/3*PR(-1))/(2/3*PR(-1) + 1/3*PR(-2)) ; {3m lag uplift}

Comment: This variable is the stock of linkers that have been issued with a 3-month lag on indexation, the equation includes an assumption about the proportion of future issuance that will have a 3-month, as compared with an 8-month, lag.

No.	Name	Description	Unit	Source	Identifier
2038	REVIG8	Stock of 8m linkers (inc. revaluations)	£M	HMT	-

Model equation: Technical relationship

REVIG8 = REVIG8(-1)*RPI8 + (REDILGILT - ILGCSH)

+ 0.25*ifle(200702)*(dILGILT - REDILGILT)

*W RPI8 = (2/3*PR(-2) + 1/3*PR(-3))/(2/3*PR(-3) + 1/3*PR(-4)) ; {8m lag uplift}

Comment: This variable is the stock of linkers that have been issued with an 8-month lag (the historical norm) on indexation, the equation includes an assumption about the proportion of future issuance that will have an 8-month, as compared with a 3-month, lag.

No.	Name	Description	Unit	Source	Identifier
2039	FLEASGG	Imputed GG debt from finance leases	£M	ONS	F8YF+F8YH
2040	FLEASPC	Imputed PC debt from finance leases	£M	ONS	F8YJ

Model equation: Exogenous variables.

No.	Name	Description	Unit	Source	Identifier
2041	REDILGILT	Redemptions of index-linked gilts	£M	HMT	-

Model equation: Exogenous variable.

No.	Name	Description	Unit	Source	Identifier
2042	dCGOD	CGNCR financing: CG loans from MFIs	£M	HMT	ANTB

Model equation: Technical relationship

dCGOD = diff(CGOD)

ANNEX: ALPHABETICAL LISTING OF MODEL VARIABLES

No.	Name	Description	Unit	Source
0104	A2029	Numbers in Age cohort 20-29	000s	KABB
0702	ADJW	Adjustment for wages & salaries	Number	=HMT
0914	AEG	Aggregate External Grant: CG to LA (inc. NNDR grant)	£M	=HMT
6003	AL	Aggregates Levy	£M	MDUP
0736	APH	Average House Price index	Index	=DCLG
1524	APIIH	Attributed Property Income of Ins. Policy Holders	£M	ROYP
0968	ASSETSA	Fixed asset sales by Public Sector	£M	=HMT
1104	BAL	Balancing item in BoP account	£M	NYPO
1094	BBC	Television licence tax	£M	DH7A
1416	BBIC	Bank lending to PNFCs (all currencies)	£M	NLBF+NLBG
1631	BCCCU	British Chambers of Commerce Capacity Utilisation	Index	=BCC
1134	BENAB	Social security benefits paid abroad	£M	FLUK
1088	BETLEVY	Betting levies scored as taxes on income & wealth	£M	DW9E
1087	BETPRF	Betting tax scored on income & wealth	£M	MIYF
1601	BPA	Basic Price Adjustment, CVM	£M, CVM	NTAO
1609	BPA£	Basic Price Adjustment, cash	£M	YBHA-ABML
1043	BRB	Basic Rate Band width (£, Q rate)	£	=HMT
0205	BV	Book value of inventories, end quarter	£M	=HMT
0105	C	final Consumption expenditure: HH + NPISH, CVM	£M, CVM	NPSP
0106	C£	final Consumption expenditure: HH + NPISH, cash	£M	ABJQ+HAYE
1016	CAPAL	Capital Allowances due (all companies)	£M	=HMT
1121	CB	Current account Balance of Payments	£M	HBOP
1142	CB%	Current account Balance of Payments, % GDP	%	AA6H
1615	CBIBC	CBI spare capacity indicator	Index	DKCE
1029	CC	Community Charge (Council Tax)	£M	NMIS
1055	CCACC	Community Charge Accruals adjustment	£M	-CDXW-ADDC
6004	CCL	Climate Change Levy	£M	LSNS
1003	CCLACA	Climate change & aggregates levy accruals adjustment	£M	*1003
0103	CDUR	Consumers' expenditure on Durables, CVM	£M, CVM	UTID
0107	CDUR£	Consumers' expenditure on Durables, cash	£M	UTIB
6001	CETAX	Customs & Excise Taxes	£M	ACAC
1225	CGACADJ	CG Accruals adjustments	£M	*1225
1250	CGACRES	CG Accounts residual	£M	*1250

0974	CGASC	CG Actual Social Contributions	£M	GCMP
1077	CGC	CG IPD credits (earnings on reserves)	£M	D69U
1109	CGCBOP	CG earnings on reserves: scoring in BoP	£M	HHCC
0917	CGCGLA	Total CG grants to LAs'	£M	QYJR
1623	CGG	General Government final consumption, CVM	£M, CVM	NMRY
1624	CGG£	General Government final consumption, cash	£M	NMRP
1240	CGGILTS	Stock of CG gilts excluding linkers	£M	NIJI-V2027
0906	CGI£	Total Central Government GFCF	£M	NMES
1258	CGINTRA	CG net interest & dividends from Public Sector	£M	ANNY
1033	CGISC	CG Imputed Social Contributions	£M	*1033
1135	CGITFA	CG tax receipts from abroad	£M	CGDN
1129	CGKTA	CG capital transfers abroad	£M	FLWB
1252	CGLSFA	CG Loans & Sales of Financial Assets	£M	ANRH+ANRS
0942	CGMISP	CG Miscellaneous Payments	£M	ANRS-ABIF
1223	CGNB	CG Net Borrowing	£M	-NMFJ
0976	CGNCGA	CG Net Current Grants Abroad	£M	GZSI
2013	CGNCR	CG Net Cash Requirement (NSA)	£M	RUUW
1254	CGNDIV	CG interest & dividends from Private sector & RoW	£M	GVHE
1063	CGNDRAA	NNDR end year adjustment	£M	LNFP+CULD
2015	CGOD	CG loans from monetary & financial institutions	£M	ANTB
0938	CGOTR	CG Other current grants	£M	NMFC
0903	CGP	CG Procurement expenditure	£M	QWPT
1253	CGRENT	CG Rent & other current transfers	£M	ANBU
0908	CGSB	CG net Social Benefits to households	£M	GZSJ
0977	CGSTOCK	CG net capital Stock, all fixed assets	£Bn	CIXK
0935	CGSUBP	CG Subsidies on Products	£M	NMCB
0936	CGSUBPR	CG Subsidies on Production	£M	NMCC
1081	CGT	Capital Gains Tax	£M	QYJX
0907	CGTSUB	CG Total subsidies	£M	NMCD
0901	CGWS	CG compensation of employees	£M	QWPS
1107	CIPD	IPD credits	£M	*1107
0309	COC	Cost of Capital (private sector industry)	%	=HMT
2011	COIN	Notes and coins, end quarter	£M	NIIK
0972	CONACC	Accruals adj. on conventional gilts	£M	-GCSW-GCMR
0721	CPI	Consumer Prices Index, 1996=100	Index	D7BT
0210	CS	Real financing cost of stocks	%	=HMT

0963	CSS	Cyclical Social Security	£M	ABBV
1075	CT	Corporation Tax	£M	*1075
1066	CT1	Old CT regime proportion	%	=HMT
1067	CT2	New CT regime proportion	%	=HMT
1086	CTC	Children's Tax Credit	£M	-MDWZ
2041	dCGOD	CGNCR financing: CG loans from MFIs	£M	ANTB
2036	dCOIN	CGNCR financing: Coin	£M	-EYMW
1232	DEP	Public Sector Depreciation	£M	ANNZ
2023	dGILT	Total net purchases of gilts (all sectors)	£M	ANTA
0948	DICGLA	CG debt interest payments to LAs	£M	NUHC
0912	DICGOP	Total CG debt interest payments	£M	NMFX
0943	DICGPC	CG debt interest payments to PCs	£M	*0943
0944	DILACG	LA debt interest payments to CG	£M	GVHA
0961	DILAPC	LA debt interest payments to PCs	£M	CPBA
0931	DILAPR	LA interest/dividends paid to private sector & RoW	£M	NUGW
2021	dILGILT	Net cash nominal issues of linkers	£M	ACOV
0204	DINV	Change in inventories	£M, CVM	CAFU
0211	DINV£	Change in inventories	£M	CAEX
0212	DINVCG	CG change in inventories	£M	ANMY
0208	DINVHH	HH change in inventories	£M	RPZX
0945	DIPCCG	PC debt interest payments to CG	£M	GVHC-ZYHY
0947	DIPCLA	PC debt interest payments to LAs	£M	GVHD-ZYHZ
1212	DIPCOP	PC debt interest payments to RoW & Priv. Sector	£M	GZSO
1108	DIPD	IPD debits	£M	*1108
1518	DIPHH	Debt Interest Payments of HH	£M	ROYU
0911	DIPLDC	Debt Interest Paid on conventional gilts	£M	CUEM-CMSU
0910	DIPNSC	Debt Interest Payments on Natl Savings	£M	XACX
1206	DIPRPC	PC interest receipts from Private Sector	£M	GVHG
1020	DIRCG	Debt Interest Receipts of CG	£M	*1020
1517	DIRHH	Debt Interest Receipts of HH	£M	ROYM
1021	DIRLA	Debt Interest Receipts of LA	£M	*1021
1211	DIRPC	Debt Interest Receipts of PC	£M	GVHH
0985	DITHER	Other CG debt interest	£M	=HMT
1097	DIVRCG	Total CG dividend receipts	£M	ZYIA+ZYHY
2034	dNATSAV	CGNCR financing: Natl Savings	£M	-AACE
2035	dOCGASS	CGNCR financing: Other CG assets	£M	ANTD+ANSZ

1114	DRES	Changes to foreign currency reserves	£M	AIPA
0706	DUTRPI	Average rate of Duty on RROSSI	%	=HMT
1213	DVPCCG	PC dividend payments to CG	£M	ZYHY
1208	DVPCLA	PC dividend payments to LA	£M	ZYHZ
1035	DVPSCG	Dividends from Private Sector to CG	£M	ZYIA
0927	ECG	CG non-trading employment (WFJ)	000s	CULX(Q)
0921	ECNET	Net EC contributions (BoP basis)	£M	-FKKL-FKIJ
1116	ECUPO	Sterling/Euro exchange rate (Euros/£)	Rate	THAP
0409	ED	F/T home students: further & higher education	000s	=HMT
1122	EECOMPC	Employees Compensation from abroad	£M	IJAH
1113	EECOMPD	Employees Compensation due abroad	£M	IJAI
1534	EECPP	Employees pension contributions	£M	RNNN
1008	EENIC	Employees' payments of NICs	£M	AIIH-CEAN
1056	EENIR	Class 1 Employee NIC rate (weighted average)	%	=HMT
1525	EESC	Employee Social Contributions	£M	RPHX+RPHY
1044	EESCCG	CG employee social contributions	£M	GITB+GVFJ
0971	EESCLA	Employee contributions to LA pension schemes	£M	NMWM
0934	ELA	LA non-trading employment (WFJ)	000s	CUAN(Q)
1513	EMPCPP	Employers' contributions to funded pension schemes	£M	RNNG
1523	EMPISC	Employers' Imputed Social Contributions	£M	NQDK
1009	EMPNIC	Employers' payments of NICs	£M	CEAN
1057	EMPNIR	Class 1 Employer NIC rate (weighted average)	%	=HMT
1504	EMPSC	Employers' Social Contributions	£M	ROYK
0411	EOIL	Offshore oil and gas employment	000s	CGZH(Q)/1000
0401	EPS	Private Sector employment (inc. PCs)	000s	*0401
1406	EQPR	Equity price index, (FT all-share)	Index	HSEL
0725	ERCG	CG average earnings index, 2000=100	Index	NMAI/C9K9(Q)
0726	ERLA	LA average earnings index, 2000=100	Index	NMJF/C9KA(Q)
0410	ES	Employers and self employed (WFJ)	000s	DYZN(Q)
0404	ET	UK employed labour force (WFJ)	000s	*0404
0402	ETLFS	LFS employment (inc. self -employed)	000s	MGRZ
1126	EUKT	Capital transfer payments from EU	£M	GTTY
1080	EUOT	Payments of taxes on products to EU	£M	FJWE+FJWG
1131	EUSF	Receipts from EU Social Fund	£M	H5U3
1123	EUSUBP	EU Subsidies on Products	£M	FKNG
1137	EUSUBPR	EU Subsidies on Production	£M	FHLK (ZJZD)

0969	EUVAT	VAT payments to the EU	£M	HCML+FSVL
1005	EXDUTAC	Excise Duty Accruals adjustments	£M	RUSD
1218	FCACA	Financial Companies Accruals Adj.	£M	DKHH+ZYBE
0322	FIB	First year investment allowance for Industrial Buildings	%	=HMRC
2039	FLEASGG	Imputed GG debt from finance leases	£M	F8YF+F8YH
2040	FLEASPC	Imputed PC debt from finance leases	£M	F8YJ
2012	FLOATER	Stock of floating rate gilts	£M	=HMT
0320	FP	First year investment allowance for Plant & machinery	%	=HMRC
1618	FYCPR	Gross trading profits of all companies	£M, CVM	*1618
1503	FYEMP	Total compensation of employees	£M	DTWM
1614	GDPI	GDP Income measure at market prices	£M	YBHA
1603	GDPM	GDP at market prices, CVM	£M, CVM	ABMI
1607	GDPM£	GDP at market prices, cash	£M	YBHA
1633	GFC	Gross domestic product at Factor Cost	£M, CVM	YBHH
1411	GFWPE	Household sector Gross Financial Wealth	£M	NNML
1629	GGFCD	GG Final Consumption Deflator	Index	*1629
2032	GGGD	General Government Gross Debt	£M	BKPX
0306	GGI	General Government GFCF	£M, CVM	DLWF
0304	GGI£	General Government GFCF	£M	RNCZ+RNSM
0315	GGIDEF	General Govt Investment Deflator	Index	*0315
2031	GGLIQ	General Government Liquid Assets	£M	*2031
2028	GGNB	General Government Net Borrowing	£M	-NNBK
1632	GNI£	Gross National Income	£M	ABMZ
0964	GNLDF	Lottery financed expenditure	£M	CJSW
1133	GNP4	UK fourth resource contribution to EU	£M	HCSO+HCSM
0326	GPW	Household sector Gross Physical Wealth	£Bn	CGRP
1510	GTPIC	Gross Trading Profits: PNFCs' (inc. NS)	£M	CAGD+CAED
1604	GVA	GVA at basic prices, CVM	£M, CVM	ABMM
1605	GVA£	GVA at basic prices, cash	£M	ABML
0742	HD	Housing Depreciation index in RPI	Index	CHOO
1037	HEENIR	Employee NICs higher rate	%	=HMT
1507	HHDI	HH (& NPISH) gross Disposable Income	£M	RPHQ
1533	HHISC	Household imputed Social Contributions	£M	RVFH
1532	HHSB	Household Social Benefits	£M	RPIA
1125	HHTA	Household Transfer payments Abroad	£M	*1125
1072	HHTCG	Household Transfers to CG	£M	NMEZ

1124	HHTFA	Household Transfer receipts from Abroad	£M	*1124
0731	HRRPW	LA gross rent per house per week (£)	£	=DCLG
1203	IBPC	PC increase in stocks	£M	DHHL
0301	IBUS	Business Investment	£M, CVM	NPEL
0314	ICC£	Private Non-Financial Companies GFCF	£M	ROAW
0707	ICOST	Investment Costs: I-O decompostion	Index	=HMT
2020	IDBILL	Issue Dept holdings of Commercial Bills	£M	=HMT
0308	IF	Total Gross Fixed Capital Formation, CVM	£M, CVM	NPQT
0312	IF£	Total Gross Fixed Capital Formation, cash	£M	NPQS
0327	IFC£	Investment by Financial Companies	£M	RPYQ
0305	IH	Private Sector investment in housing	£M, CVM	DFEA
0313	IHH£	Households GFCF	£M	RPZW
0913	IILG	Debt interest on index-linked gilts	£M	CMSU
1039	ILGAC	Accruals adjustment on index linked gilts	£M	-NMQZ
0953	ILGCSH	Index-Linked Gilts Cash uplift	£M	NMRB-NMQZ
0962	ILGUP	Accrued uplift on index linked gilts	£M	NMRB
1038	INCTAC	Income Tax Accruals Adjustment	£M	*1038
1074	INCTAXG	Income Tax Gross of tax credits	£M	LIPG
1027	INHT	Inheritance Tax	£M	NMGI
1141	INSURE	Non-life insurance premiums & claims	£M	NHRX+FLYE
0201	INV	Inventory levels, end quarter	£M, CVM	=HMT
1202	IPC£	Investment by Public Corporations	£M	ANNQ
0317	IPRL	Other private sector investment (transfer costs)	£M, CVM	DLWI
1136	ITA	Tax payments abroad	£M	FLVE
0408	IVB	Invalidity/Incapacity Benefit recipients	000s	KJHB+KXDT
0919	KCGLA	Capital grants: CG to LA	£M	NMGR+NMGT
1209	KCGPC	Capital grants: CG to PC	£M	*1209
0926	KCGPSO	Capital grants: CG to Private Sector and RoW	£M	ANNI
1519	KGHH	Households net capital transfers	£M	*1519
1034	KGLA	LA capital receipts from UK co. & EU	£M	ANNO
1207	KGLAPC	Capital grants: LA to PC	£M	ADCF
0939	KID	No. of children receiving child benefit (GB)	000s	BDAH
0916	KLA	LA capital grants	£M	NMNL
1220	KPCPS	Capital grants: PCs to the Private Sector	£M	ZMML
0956	KPSCG	Capital grants: Private Sector to CG	£M	ANNN
1201	KPSPC	PC capital transfers from the Private Sector	£M	ADSE

1041	LAAC	LA accruals adjustment (NSA)	£M	-ANML
2001	LABRO	LA market borrowing net CG/PC debt	£M	AAZK
0930	LAI£	Investment by Local Authorities	£M	NMOA
1259	LAINTRA	LA net interest & dividends from Public Sector	£M	ANPZ
0915	LALEND	LA net lending to personal sector	£M	ADDU
2033	LALIQ	LA Liquid Assets	£M	BKSO+BKQG
1249	LAMFT	LA Misc. Financial Transactions	£M	ANMW
0920	LAMISE	LA Miscellaneous Expenditure	£M	LSIB
1226	LANB	Local Authority Net Borrowing	£M	-NMOE
0986	LANCGA	LA Net Current Grants Abroad	£M	C626
1255	LANDIV	LA interest & dividends from Private sector & RoW	£M	GVHF
0965	LANDRAA	LA NNDR Accruals Adjustment	£M	CULD-CCXN
0959	LANNDR	LA payments of NNDR	£M	CQOQ
0958	LAOTRHH	LA Other Transfers to HH	£M	EBFE
0929	LAPR	LA expenditure on Procurement	£M	QWRZ-NMKK
1083	LAPT	LA receipts of Production Taxes	£M	NMYH
1243	LARENT	LA Rent receipts & current transfers	£M	ANBX
0918	LASBHH	LA Social Benefits to Households	£M	GZSK
0949	LASC	LA Social contributions	£M	GCMN
0978	LASTOCK	LA net capital Stock, all fixed assets	£Bn	CIXL
0904	LASUBP	LA Subsidies on Products	£M	ADAK-LIUC
0937	LASUBPR	LA Subsidies on Production	£M	LIUC
0941	LATSUB	LA Total subsidies	£M	ADAK
1032	LAVAT	VAT refunds to LAs	£M	CUCZ
0928	LAWS	LA compensation of employees	£M	QWRY
2002	LCGLA	Net lending by CG to LAs (NSA)	£M	ABEC
0951	LCGOS	CG net lending overseas	£M	HEUC
2006	LCGPC	Net lending by CG to PCs (NSA)	£M	ABEI
0952	LCGPR	CG net lending to the Private Sector	£M	ANRH-HEUC
0416	LFSUR	LFS Unemployment Rate (ILO)	%	MGSX
1412	LHP	HH loans secured on dwellings	£M	NNRP
1415	LIQIC	PNFCs' stock of gross liquid assets	£M	AIEL
1010	LL	Lower Earnings Limit for NICs (£, Q)	£	=HMT
1042	LRB	Lower Rate Band width (£, Q rate)	£	=HMT
0605	M	Imports of goods and services, CVM	£M, CVM	IKBL
0609	M£	Imports of goods and services, cash	£M	IKBI

1408	M0	Notes & coins in circulation outside BoE	£M	AVAB
0735	M14CP	Major 14 consumer prices	Index	=HMT
1118	M14GDP	GDP in Euro11+US+Japan+Canada	£M	=HMT
1410	M4	M4 (end period), (FYSA)	£M	AUYN
1612	MANGVA	Manufacturing GVA	£M, CVM	CKYY
1205	MFTPC	PC Misc. Financial Transactions	£M	ANVU
1052	MFTRAN	CG Misc. Financial Transactions	£M	-ANRV
1622	MGDPNSA	GDP at market prices (NSA)	£M	BKTL
1502	MI	Mixed Income	£M	RNKX
1128	MIKTA	Migrants capital Transfers Abroad	£M	FLWJ
1127	MIKTFA	Migrants capital Transfers From Abroad	£M	FHJC
1068	MILAPM	MIRAS, LAPRAS and PMI relief: receipts	£M	GCJG
1070	MILAPME	MIRAS, LAPRAS and PMI relief: public expenditure	£M	*1070
0506	MKTGS	UK export markets for goods & services	Index	=HMT
1251	MKTIG	Market value of index-linked gilts	£M	=HMT
0606	MMTIC	MTIC fraud related imports, CVM	£M, CVM	*0606
0608	MMTIC£	MTIC fraud related imports, cash	£M	*0608
0601	MNOS	Imports of Non-Oil goods and Services	£M, CVM	JTEA
0602	MNOSX	Imports of Non-Oil goods and Services ex. MTIC	£M, CVM	*0602
1084	MOBACC	Spectrum accruals adjustment	£M	-BKTC
1085	MOBREV	Spectrum accruals	£M	BKTK
0805	MOIL	Imports of crude Oil and oil products	£M, CVM	BPIX
1509	NAFCO	Net Acquisition of Financial Assets: Co's	£M	RPYN+RQBV
1511	NAFFC	Net Acquisition of Fin. Assets: FINCOs	£M	RPYN
1506	NAFHH	Net Acquisition of Fin. Assets: HH	£M	RPZT
1512	NAFIC	Net Acquisition of Fin. Assets: PNFCs	£M	RQBV
1143	NAFROW	Net lending by Rest of the World	£M	RQCH
2022	NATSAV	Stock of National Savings	£M	ACUA
1514	NDIVHH	HH & NPISH dividend receipts	£M	NRKU
1520	NEAHH	Adj. for change in net equity of HH pension funds	£M	RPQJ
1409	NFWPE	Household sector Net Financial Wealth	£M	NZEA
1051	NHNPTC	Non-household NPISH tax credits	£M	*1051
1036	NICAC	National Insurance Accruals Adjustment	£M	ACJY
1110	NIPD	Net inflow of IPD	£M	HBOM
1098	NIS	Employers' Natl Insurance Surcharge	£M	GTAY
1522	NMTRHH	Net Misc. Transfer Receipts of HH	£M	RPHO-RPID

1064	NNDACC	NNDR accruals adjustments	£M	*1064
1030	NNDRA	National Non-Domestic Rates Accruals	£M	CUKY
1015	NNSCTP	Non-North Sea Corporation Tax Payments	£M	*1015
1611	NNSGVA	Non-North sea GVA, CVM	£M, CVM	UIZY
0925	NOPENS	Number of pensioners (inc. widows)	000s	BDAE
1630	NOPROD	Non-Oil Productivity	Index	=HMT
1132	NPAA	Net acquisition of Non-Produced non-fin. Assets (land)	£M	FHJL-FLWT
0905	NPACG	CG Net acquisition of Non-Produced non-fin. Assets	£M	NMFG
0311	NPAHH	HH Net acquisition of Non-Produced non-fin. Assets	£M	RPZU
0933	NPALA	LA Net acquisition of Non-Produced non-fin. Assets	£M	NMOD
1531	NPISHTC	NPISH tax credits	£M	-CFGW
0950	NPRIVP	Net Privatisation Proceeds	£M	-ABIF
2029	NPSD	Net Public Sector Debt	£M	BKQK
1050	NSACT	North Sea Advanced Corporation Tax	£M	=HMT
1013	NSCTP	North Sea Corporation Tax Payments	£M	DBJY
0807	NSGTP	North Sea Gross Trading Profits: PNFCs	£M	CAGD
0802	NSGVA	GVA in North Sea oil & gas extraction	£M, CVM	UJAD
1018	NSROY	North Sea Royalties accruals	£M	ACEC
1076	NTSSC	Net Taxes and Social Security Contributions	£M	=HMT
2024	OCGASS	Other CG Assets	£M	BKSM+BKSN
2019	OCGBRF	Other CGBR financing	£M	*2019
1096	OCT	Other Current Taxes	£M	NMCV-CQOQ
6005	OFGEM	Tax levied by OFGEM	£M	E02E
1241	OFLPS	Other Public Sector Financial Liabilities	£M	*1241
1019	OHT	Other Household Taxes on income	£M	*1019
1413	OLPE	HH other financial liabilities	£M	NNPP-NNRP
1130	OPSKTA	Other Private Sector capital Transfers Abroad	£M	FLWI-FLWJ
1023	OPT	Other Production Taxes	£M	NMBX-CUKY
1620	OS	Gross Operating Surplus	£M, CVM	ABNG
1530	OSB	HH private funded social benefits (pensions)	£M	RNLL
0970	OSGG	Gross Operating Surplus: GG	£M	NMXV
1617	OSHH	Gross Operating Surplus: HH	£M	CAEN
1204	OSPC	Gross Operating Surplus: PC	£M	NRJT
0738	OWC	Owner occupancy rate	%	=DCLG
2017	OXFPS	Other external funding of the PSBR	£M	-AACL-AACM
1095	PASSPORT	Passport fees	£M	E8A6

0809	PBRENT	Brent crude oil Price ($ per barrel)	$	=IMF
1247	PCAC	PC Accounts receivable/payable	£M	ANVQ
2010	PCBRO	PC market borrowing net CG/PC debt	£M	AAZL
1219	PCCON	Total PC capital consumption	£M	NSRM
0703	PCE	Consumers' expenditure deflator	Index	*0703
1248	PCGILT	PC adjustment for interest on gilts	£M	NCXS
0302	PCIH	PC's investment in dwellings	£M, CVM	DKQH
1260	PCINTRA	PC net interest & dividends from Public Sector	£M	ANRW
0932	PCLEB	PCs investment in Land and Existing Buildings	£M, CVM	DLWH
1245	PCLEND	PC net lending to private sector & RoW	£M	ANRY
1246	PCMISE	PC net acquisition of UK co. securities	£M	ANRZ
2009	PCNB	Public Corporations Net Borrowing (NSA)	£M	-CPCM
1256	PCNDIV	PC interest & dividends from Private sector & RoW	£M	GVHG
0902	PCOTC	Payable Company Tax Credits	£M	MDXH
1244	PCRENT	PC rent receipts & current transfers	£M	ANCW
1222	PCSTOCK	PC net capital Stock, all fixed assets	£M	CIXJ
0727	PCT	Rates/Community Charge RPI	Index	DOBR
0102	PD	Property transactions (particulars delivered)	000s	FTAQ
1217	PFTC	Pension Fund Tax Credits	£M	-CFGS
1610	PGDP	GDP at market prices deflator	Index	YBGB
1606	PGVA	Gross Value Added deflator	Index	CGBV
0710	PIF	Investment deflator (total GFCF)	Index	*0710
0709	PINV	Inventories deflator	Index	=HMT
1529	PIPHH	Property Income Payments of HH	£M	ROYT
1528	PIRHH	Property Income Receipts of HH	£M	ROYL
0718	PMNOS	AVI: imports of non-oil goods & services	Index	*0718
0719	PMNOSX	AVI: imports of non-oil goods & services ex. MTIC	Index	*0719
0806	PMOIL	AVI for imports of oil	Index	*0806
1082	POISS	Profits On Issue of notes	£M	EYWM
0412	POP	Total population of working age (LFS)	000s	YBTF
0701	PPIY	Producer output price index ex. taxes	Index	PVNQ
0708	PR	Retail Prices Index (RPI)	Index	CHAW (FRAG)
0716	PRENT	Rent component of the RPI	Index	DOBP
0712	PRMIP	MIPs index in the RPI	Index	DOBQ
1017	PRT	Petroleum Revenue Tax inc. advance PRT	£M	ACCJ
0713	PRXMIP	RPI excluding MIPs	Index	CHMK

1235	PSACADJ	Public Sector Accruals Adjustments	£M	*1235
0724	PSAVEI	Private Sector Average Earnings Index	Index	LNKY
1230	PSCB	Public Sector Current Budget	£M	ANMU
1229	PSCE	Public Sector Current Expenditure	£M	ANLT
1228	PSCR	Public Sector Current Receipts	£M	ANBT
1239	PSFA	Public Sector Financial Assets	£M	NKFB+NPUP
1242	PSFL	Public Sector Financial Liabilities	£M	NKIF+NPVQ
1231	PSGI	Public Sector Gross Investment	£M	=HMT
1257	PSINTR	Public Sector interest & dividend receipts	£M	ANBQ
1234	PSLSFA	Public Sector Loans & Sales of Financial Assets	£M	ANSU+ANSV
2030	PSNBCY	Public Sector Net Borrowing (CYSA)	£M	-RQBN-RPZD
2026	PSNBNSA	Public Sector Net Borrowing (NSA)	£M	-ANNX
2014	PSNCR	Public Sector Net Cash Requirement (FYSA)	£M	RURQ
1233	PSNI	Public Sector Net Investment	£M	-ANNW
1236	PSNW	Public Sector Net Wealth	£M	CGTY
1238	PSTA	Public Sector Tangible Assets	£M	CGJA
1237	PUBSTIW	Public Sector taxes: Income & Wealth	£M	ANSO
1214	PUBSTPD	Public Sector taxes: Production & imports	£M	NMYE
0714	PXNO	AVI for exports of Non-Oil goods	Index	*0714
0804	PXOIL	AVI for exports of Oil	Index	*0804
0717	PXS	AVI for exports of Services	Index	*0717
0924	RCGIM	CG non-trading capital consumption	£M	NSRN
1403	RDEP	Building Society deposit rate	%	AJNV
2018	REDGILT	Redemptions of conventional gilts	£M	-ACOX-ACOY
2042	REDILGILT	Redemptions of index-linked gilts	£M	=HMT
0957	REDOTH	Interest on gilts redeemed & other flows	£M	=HMT
1625	RENTCO	Private Sector companies rental income	£M	DTWS+FCBW
2027	REVIG	Stock of linkers (inc. revaluations)	£M	BKPL
2037	REVIG3	Stock of 3m linkers (inc. revaluations)	£M	=HMT
2038	REVIG8	Stock of 8m linkers (inc. revaluations)	£M	=HMT
6007	RFP	Rail franchise premia	%	LITT
0737	RHF	Real interest rate on Housing Finance	%	=HMT
1508	RHHDI	Real HH (& NPISH) Disposable Income	£M, CVM	NRJR
1407	RILG	Real interest rate on Index-Linked Gilts	%	=HMT
1402	RL	UK twenty year gilt yield	%	AJLX
0940	RLAIM	LA non-trading capital consumption	£M	NSRO

0954	RLCOTC	Reduced Liability Company Tax Credits	£M	JPPT-MDXH
1405	RMORT	Building Soc. mortgage rate (repayment)	%	AJNL
1040	RNCG	CG total rent receipts (ex. capital consumption)	£M	*1040
1404	RNS	Rate of return on National Savings	%	XACX/ACUA
1079	ROCs	Renewable Obligation Certificates (tax on products)	£M	EP89
1112	ROLT	GDP weighted 10y interest rate: G7 & Euro11	%	=HMT
1115	ROSHT	GDP weighted 3m interest rate: G7 & Euro11	%	=HMT
0704	RPCOST	Index of Retail Price Costs	Index	=HMT
0512	RPRICE	Relative export prices	Index	CTPC
0711	RPTAX	Average tax rate on RROSSI	%	=HMT
0705	RROSSI	ROSSI: RPI ex. MIPs, council tax and rents	Index	GUMF
1401	RS	UK interbank rate: 3m LIBOR	£M	AMIJ
1106	RSA	Rate of return on Stock of Assets	%	=HMT
1105	RSL	Rate of return on Stock of Liabilities	%	=HMT
1119	RX	Sterling effective exchange rate	Index	BK67
1120	RXD	Sterling - dollar cross rate	Rate	AUSS
1117	RXE	Expected exchange rate	Rate	AGBG(+1)
0206	SA	Stock Appreciation (inventories)	£M	DLRA+EQCB
1101	SAS	Stock of Assets	£M	*1101
1521	SAVCO	Saving of Companies: PNFCs + FINCOs	£M	RPKZ+RPPS
1526	SBHH	Household Social Benefits	£M	RPHL
1099	SC	Supplementary Charge on North Sea profits	%	=HMT
1619	SDE	Statistical discrepancy: GDP (E)	£M, CVM	GIXS
1626	SDE£	Statistical discrepancy: GDP (E)	£M	GIXM
1627	SDI	Statistical discrepancy: GDP (I)	£M	GIXQ
6006	SENIR	Self-Employed class 4 NIC Rate	%	=HMT
0323	SIB	Annual investment allowance for Industrial Buildings	%	=HMRC
1007	SIBICC	Total allowances on PNFCs investment in Buildings	£M	=HMT
1102	SL	Stock of Liabilities	£M	*1102
2003	SLAB	Stock of LA market borrowing(NSA)	£M	*2003
2004	SLAM	Stock of LA monetary assets (NSA)	£M	ADNA-ADNJ
2005	SLAPO	Private Sector debt held by LAs (NSA)	£M	*2005
0946	SLCGLA	Stock of LA debt held by CG	£M	*0946
2008	SLCGPR	Stock of CG net lending to Private Sector	£M	*2008
0321	SP	Annual investment allowance for Plant & machinery	%	=HMRC
2007	SPCBCG	Stock of PC debt held by CG	£M	AKSG

0607	SPECX	Trend Specialisation in world trade & ind. production	Index	=HMT
1103	SRES	Stock of total official Reserves	£M	LTEB
1515	STIPIC	Short-Term Interest Payments: PNFCs	£M	=HMT
0324	SV	Rate of annual writing down allowance on vehicles	%	=HMRC
1505	SVHH	Households' (& NPISH) gross saving	£M	RPQL
1078	SWAPS	Swap adjustments	£M	CFZG
1540	SY	Households' saving ratio	%	NRJS
0741	TAX	Tax component of RPCOST	Index	=HMT
1073	TAXCRED	Total income tax credits	£M	=HMT
0610	TB	Balance of Trade in goods & services	£M	IKBJ
2025	TBILLS	Stock of Treasury Bills	£M	NIIV
1012	TCACT	Advance Corporation Tax receipts	£M	ACCN
1026	TCINV	Other company taxes on investment	£M	GRXE
1053	TCPRO	Corporation tax rate	%	=HMT
1227	TDEF	GG net borrowing: Maastrict definition	£M	-MDUK
0801	TDOIL	Total domestic Demand for Oil	£M, CVM	*0801
1602	TFE	Total Final Expenditure, CVM	£M, CVM	ABMG
1608	TFE£	Total Final Expenditure, cash	£M	ABMF
1634	TFEX	Total Final Expenditure ex. MTIC, CVM	£M, CVM	=HMT
1635	TFEX£	Total Final Expenditure ex. MTIC, cash	£M	=HMT
0973	TME	Total Managed Expenditure	£M	*0973
1061	TMIRAS	MIRAS tax rate	%	=HMT
1048	TPAG	Age allowance (avg. single & married)	£	=HMT
1049	TPBRZ	Basic rate of income tax	%	=HMT
1062	TPHR	Higher rate of income tax	%	=HMT
1047	TPLR	Lower rate of income tax (ratio)	%	=HMT
1045	TPMCA	Married Couples Allowance (£, Q rate)	£	=HMT
1621	TPROD	Taxes less subsidies on Production, CVM	£M, CVM	NTAI
1613	TPROD£	Taxes less subsidies on Production, cash	£M	CMVL-NTAP
1046	TPSNA	Single persons allowance (£, Q rate)	£	=HMT
1140	TRANB	Transfers Balance	£M	IKBP
1138	TRANC	Transfer Credits	£M	IKBN
1139	TRAND	Transfer Debits	£M	IKBO
0922	TROD	Government non-EC transfer debits	£M	*0922
1001	TSD	Stamp Duty receipts	£M	ACCI
1025	TSEOP	Taxes on Self-Employment & Other Personal Income	£M	ZAFG

1058	TVAT	VAT rate	%	=HMT
1006	TXALC	Alcohol duties: spirits, beer, wine and cider	£M	ACDF/G/H/I
2016	TXCERT	Tax certificates	£M	ACRV
6002	TXCUS	Misc. Customs and Excise taxes	£M	*6002
1014	TXFUEL	Hydrocarbon oils duty receipts	£M	ACDD
1028	TXKCO	CG receipts of capital taxes on companies	£M	DKGZ
1024	TXMIS	Misc. expenditure taxes	£M	*1024
1022	TXTOB	Tobacco duty	£M	ACDE
1002	TYEM	Taxes on income from employment	£M	DBBO
1215	TYPCO	PC onshore corporation tax payments	£M	FCCS
1527	TYWHH	HH current taxes on income and wealth	£M	RPHS+RPHT
0406	U	Claimant count unemployment	000s	BCJD
0739	UDEN	Union density (constant from 1980q4)	%	=HMT
1011	UL	Upper Earnings Limit for NICs (£, Q)	£	=HMT
0715	ULCPS	Private Sector Unit Labour Costs	Index	=HMT
0405	ULFS	LFS Unemployment (ILO)	000s	MGSC
1417	UNIDPE	HH stat. adjustment on financial account	£M	NZDV
0407	UNUKP	Claimant count unemployment rate	%	BCJE
0923	UPLIFT	Uprating factor for cyclical social security benefits	Index	=HMT
0909	UPRAT	Uprating for non-cyclical social security benefits	Index	=HMT
0303	VAL	Net acquisitions of valuables, CVM	£M, CVM	NPJR
0307	VAL£	Net acquisitions of valuables, cash	£M	NPJQ
0310	VALHH	Net acquisitions of valuables: HH	£M	RPZY
1059	VATFAC1	VAT-able durables consumption	%	=HMRC
1060	VATFAC2	VAT-able non-durables consumption	%	=HMRC
1091	VED	Vehicle Excise Duty	£M	GTAX
1093	VEDCO	VED paid by companies and non-HH	£M	GTAX-CDDZ
1092	VEDHH	VED paid by households	£M	CDDZ
1004	VREC	VAT Receipts	£M	EYOO
1069	VTR	Vocational Training Relief: receipts	£M	-MDUF
1071	VTRCS	VTR & other reliefs: public expenditure	£M	*1071
1111	WEQPR	World equity prices:G6+Spain, GDP weighted	Index	=HMT
0414	WFJ	Workforce in employment (WFJ)	000s	DYDC(Q)
1501	WFP	UK wages & salaries (inc. HM forces)	£M	DTWM-ROYK
0955	WFTCNT	WFTC scoring as Negative Tax	£M	LIBJ-MDYM
0967	WFTCPE	WFTC scoring as Public Expenditure	£M	LIBJ

1065	WINDT	Windfall tax receipts	£M	EYNK
0734	WPBM	World Price of Basic Materials ($)	Index	=HMT
0733	WPG	World price of goods	Index	=HMT
0413	WRGTP	Work Related Govt Training Programmes	000s	LOJU(Q)
1054	WTCCTC	Working and Children's Tax Credit	£M	MDYN
0510	WTGS	World Trade in non-oil Goods & Services	Index	=HMT
1516	WYQC	Withdrawal of income from Quasi-Corporations	£M	NBOJ
0505	X	Exports of goods and services,CVM	£M, CVM	IKBK
0507	X£	Exports of goods and services, cash	£M	IKBH
0504	XG	Total exports of goods	£M, CVM	BQKQ
1031	XLAVAT	VAT refunds (except to LA)	£M	CUNW
0508	XMTIC	MTIC fraud related exports, CVM	£M, CVM	*0508
0509	XMTIC£	MTIC fraud related exports, cash	£M	*0509
0501	XNO	Exports of Non-Oil goods	£M, CVM	BQAN
0502	XNOX	Exports of Non-Oil goods ex. MTIC	£M, CVM	*0502
0803	XOIL	Exports of Oil, CVM	£M, CVM	BOXX
0503	XS	Exports of Services, CVM	£M, CVM	IKBE

Reference Sources

No.	Name	Source
1003	CCLACA	LNSU+MDUR+CJRY
1225	CGACADJ	ANRT+ANRU+ANRV
1250	CGACRES	ANRT-(RUSD+ACJY+(CYNX+RUTC+DKHE+DBKE)+(LNFP+CULD)-BKTC+(DKHH+ZYBE))
1033	CGISC	GCSG+GCSH+RUDY
1107	CIPD	HBOK-(CGGT-HCAT)-HCEH-HHCC
1075	CT	ACCD-MDXH+JPPT
943	DICGPC	GVHH-CPBA-GVHG
1108	DIPD	HBOL-HCEH-(CGGT-HCAT)
1020	DIRCG	GVHA+GVHC+GVHE-ZYHY-ZYIA
1021	DIRLA	NUHC+GVHD+GVHF-ZYHZ
401	EPS	DYDC(Q)-LOJU(Q)-CGZH(Q)/1000-CULX(Q)-CUAN(Q)
404	ET	DYDC(Q)-LOJU(Q)
1618	FYCPR	CAGD+CAED+RITQ

1629	GGFCD	100*(NMRP/NMRY)
315	GGIDEF	100*(RNCZ+RNSM)/DLWF
2031	GGLIQ	BKQJ-BKSQ+BKSP-AIPD
1125	HHTA	CGDS-FLVY-FHLS-FLVE
1124	HHTFA	CGDO-NHRX-FLYE
1038	INCTAC	CYNX+RUTC+DKHE+DBKE
1209	KCGPC	-ANND-NMGR-NMGT
1519	KGHH	RPVO+RPVP-RPVS-RVPT
1070	MILAPME	DCHG+DCHF+GCJJ
606	MMTIC	IKBL-IKBF-(BQHS*1000)
608	MMTIC£	IKBI-IKBC-(BQHQ*1000)
1051	NHNPTC	CFGW-MDYW-MDYU
1064	NNDACC	CUKY+CQOQ+CQTC-CEIP-LNFO
1015	NNSCTP	ACCD-ACCN-DBBD-DKGZ
2019	OCGBRF	-AACH-AACI-ANTC
1241	OFLPS	NKIF+NPVQ-NIJI-ACUR
1019	OHT	NSNP+NSFA+CQTC
703	PCE	100*(ABJQ+HAYE)/NPSP
710	PIF	100*(NPQS/NPQT)
718	PMNOS	100*(IKBI-ENXO)/JTEA
719	PMNOSX	((IKBI-ENXO)- (IKBI-IKBC-BQHQ*1000))/(JTEA-(IKBL-IKBF-BQHS*1000))
806	PMOIL	100*(ENXO/BPIX)
1235	PSACADJ	ANSW+ANSX+ANSY
714	PXNO	100*(BOKG-ELBL)/BQAN
804	PXOIL	100*(ELBL/BOXX)
717	PXS	100*(IKBB/IKBE)
1040	RNCG	NMCK-ACEC-BKTK
1101	SAS	HBQA-HCFQ-NLDA-HFBB-LTEB
1102	SL	HBQB-HFBB-HCFQ-NLDA
2003	SLAB	ADKA-ADKE-ADKF+ADHA-ADHC
2005	SLAPO	ADNJ+APEN+RDLA
946	SLCGLA	ADHC+ADKF+ADKE
2008	SLCGPR	RCPH+RDZU+READ+RMAT
801	TDOIL	UJAD+BPIX-BOXX
973	TME	ANLT+ANNZ-ANNW
922	TROD	FJUO-FJCK-HCSO-HCSM

6002	TXCUS	ACAC-EYOO-ACDD-ACDE-ACDF-ACDG-ACDH-ACDI-ADET-LSNS-MDUP
1024	TXMIS	CIQY+GTAZ+CUAG+CUDF+LIYH+EBDB+LITN+DFT3+EG9G+GCSP
1071	VTRCS	IQKI+BKSG+BKSH
508	XMTIC	BQKQ-(BQHR*1000)
509	XMTIC£	IKBH-IKBB-(BQHP*1000)