Discussion Paper

THE MICHIGAN QUARTERLY ECONOMETRIC MODEL OF THE U.S. ECONOMY

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THE MICHIGAN QUARTERLY ECONOMETRIC MODEL OF THE U.S. ECONOMY

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A. Wages and Prices

$$\Delta \ln JCMH = 0.01068 + 0.95113 \times \left( \frac{\Delta WUSMIN}{JCMH_{-1}} \right)$$

$$+ 0.19034 \times \ln\left(\frac{PC_{-1}}{PC_{-3}}\right) + 0.04995 \times \ln\left(\frac{2 \times \frac{\text{REM}_{-1}}{100} + \text{JCU}_{-1}}{3}\right)$$

$$+ 0.06602 \times \frac{\text{DTSI}}{JCMH_{-1}} + 0.00959 \times \text{DFRZ1}$$

$$+ 0.46464 \times \frac{\text{RPPERM}_{-2}}{100}$$

$$R^2 = 0.740 \quad \text{S.E.} = 0.0033 \quad \text{D.W.} = 2.18 \quad \text{F.P.} = 1956.4-1979.4$$
\[ A2 \quad \Delta \ln \text{PPNF} = -0.00533 + 0.02066 \times \Delta \ln \text{PFP} - 1 \]
\[ + 0.05597 \times \ln \left( \frac{\text{PCRUDE}_{-1}}{\text{PCRUDE}_{-3}} \right) \]
\[ + 0.0096 \times \sum_{i=5}^{11} \beta_i \times \left( \frac{1}{1 - \text{JCU}} \right) \]
\[ - 0.0294 \times (\text{DFRZ2} + \text{DFRZ3}) \]
\[ + 0.0351 \times \text{DFROFF} \]
\[ + 0.17507 \times \left[ \ln \left( \frac{\text{JCMH}_{-1}}{\text{JCMH}_{-5}} \right) - \frac{4}{4} \frac{\text{QMHT}_{-i}}{\text{QMHT}_{-i}} \right] \]
\[ \beta_i = (0.6, 0.4) \]

\[ R^2 = 0.857 \quad \text{S.E.} = 0.032 \quad \text{D.W.} = 2.26 \quad \text{F.P.} = 1958.3-1980.4 \]
\[ \Delta \ln PCDO = 0.00060 + 0.37649 \times \Delta \ln PPNF \\
\quad (0.00089) \quad (0.08924) \]

\[ + 0.22593 \times \frac{\text{DTEX}}{PCDO_{-1}} + 0.43429 \times \Delta \ln PCDO_{-1} \]

\[ R^2 = 0.530 \quad \text{S.E.} = 0.054 \quad \text{D.W.} = 2.22 \quad \text{F.P.} = 1954.3-1979.4 \]

\[ \Delta \ln PCDA = 0.00122 + 0.23032 \times \Delta \ln PPNF \\
\quad (0.00160) \quad (0.14983) \]

\[ + 0.74503 \times \Delta \ln PAUTO \]

\[ R^2 = 0.551 \quad \text{S.E.} = 0.095 \quad \text{D.W.} = 2.00 \quad \text{F.P.} = 1955.4-1979.4 \]

\[ \Delta \ln PCDFE = -0.00235 + 0.38189 \times \Delta \ln PPNF \\
\quad (0.00066) \quad (0.07190) \]

\[ + 0.23913 \times \Delta \ln PPNF_{-1} + 0.13273 \times \frac{\text{DTEX}}{PCDFE_{-1}} \]

\[ \quad (0.08463) \quad (0.10489) \]

\[ + 0.26485 \times \Delta \ln PCDFE_{-1} \]

\[ R^2 = 0.739 \quad \text{S.E.} = 0.0035 \quad \text{D.W.} = 1.93 \quad \text{F.P.} = 1954.3-1979.4 \]
A6 \[ \Delta \ln PCN = 0.00101 + 0.48494 \times \Delta \ln PPNF \]
\[
(0.00064)\ (0.07653)
\]
\[ + 0.06057 \times \Delta \ln PFP + 0.09147 \times \Delta \ln PM \]
\[
(0.00680)\ (0.02283)
\]
\[ + 0.07878 \times (1 - DPGAS) \times \Delta \ln PGAS \]
\[
(0.01432)
\]
\[ - 0.00205 \times DPGAS + 0.16405 \times \Delta \ln PCN_{-1} \]
\[
(0.00114)\ (0.07592)
\]
\[ R^2 = 0.867 \quad S.E. = 0.034 \quad D.W. = 2.24 \quad F.P. = 1954.2-1979.4 \]

A7 \[ \Delta \ln PCS = -0.00015 + 0.12383 \times \ln \left(\frac{PPNF}{PPN_{-2}}\right) \]
\[
(0.00109)\ (0.04392)
\]
\[ + 0.06599 \times \ln \left(\frac{JCMH}{JCMH_{-4}}\right) \]
\[
(0.02955)
\]
\[ + 0.00598 \times \ln \left(\frac{PNGAS}{PNGAS_{-4}}\right) \]
\[
(0.00298)
\]
\[ + 0.39967 \times \Delta \ln PCS_{-1} \]
\[
(0.10013)
\]
\[ R^2 = 0.885 \quad S.E. = 0.0024 \quad D.W. = 1.80 \quad F.P. = 1959.1-1981.4 \]
A8  \[ \Delta \ln PCPI = -0.0018 + 1.1372 \times \Delta \ln PC \]
\[ \text{(0.00057) (0.04463)} \]
\[ -0.0042 \times (\text{RAAA} - \text{RCPCD})_{-2} \]
\[ \text{(0.00025)} \]
\[ -0.02886 \times \Delta \ln \left( \frac{\text{CDA72} + \text{CDE72} + \text{CDO72}}{\text{C72}} \right) \]
\[ \text{(0.01146)} \]
\[ R^2 = 0.881 \quad \text{S.E.} = 0.030 \quad \text{D.W.} = 1.92 \quad \text{F.P.} = 1954.3-1979.4 \]

A9  \[ \Delta \ln PINC = -0.0042 + 0.75392 \times \Delta \ln PPNF \]
\[ \text{(0.00126) (0.17358)} \]
\[ +0.08930 \times \ln \left( \frac{\text{PCR UdE}}{\text{PCR UdE-2}} \right) \]
\[ \text{(0.01923)} \]
\[ +0.26983 \times \Delta \ln PINC_{-1} \]
\[ \text{(0.07889)} \]
\[ R^2 = 0.724 \quad \text{S.E.} = 0.077 \quad \text{D.W.} = 2.39 \quad \text{F.P.} = 1954.3-1979.4 \]

A10  \[ \Delta \ln PIRC = -0.01428 + 0.74604 \times \ln \left( \frac{\text{JCMH}}{\text{JCMH-2}} \right) \]
\[ \text{(0.00287) (0.09394)} \]
\[ +0.00229 \times \sum_{i=1}^{3} \beta_i \times (\text{RAAA} - \text{RCPCD})_{-i} \]
\[ \text{(0.00074)} \]
\[ +0.10684 \times \Delta \ln \text{PCR UdE} \]
\[ \text{(0.03534)} \]
\[ \beta_i = (0.41, 0.49, 0.10) \]
\[ R^2 = 0.552 \quad \text{S.E.} = 0.0089 \quad \text{D.W.} = 2.30 \quad \text{F.P.} = 1954.4-1979.4 \]
\[ \Delta \ln PG = 0.00480 + 0.76785 \times \Delta \ln PPNF \\
\quad (0.00092) \quad (0.06963) \]

\[ + 0.19429 \times DGPAY \times \Delta \ln \left( \frac{YGWS}{EGOV} \right) \\
\quad (0.04832) \]

\[ + 0.12703 \times \Delta \ln \left( \frac{GFD + GFO}{GFD + GFO + GSL} \right) \\
\quad (0.03870) \]

\[ R^2 = 0.646 \quad S.E. = 0.0051 \quad D.W. = 1.72 \quad F.P. = 1954.2-1979.4 \]

\[ \text{A12} \]

\[ \text{PIP} = (\text{IPDQ72} \times \text{PIPDQ} + \text{IPDO72} \times \text{PIPDO}) \\
\quad + \text{IPDAG72} \times \text{PIPDAG} / \text{IBFPD72} \]

\[ \Delta \ln \text{PIPD} = -0.00123 - 0.01996 \times \Delta \ln \text{PCRUDE} \\
\quad (0.00075) \quad (0.01968) \]

\[ + 0.54193 \times \Delta \ln \text{PPNF} + 0.68939 \times \Delta \ln \text{PIPDQ}_- \\
\quad (0.09494) \quad (0.05581) \]

\[ R^2 = 0.874 \quad S.E. = 0.0041 \quad D.W. = 1.40 \quad F.P. = 1958.3-1979.4 \]

\[ \text{A14} \]

\[ \Delta \ln \text{PIPDAG} = -0.00091 + 0.71634 \times \Delta \ln \text{PPNF} \\
\quad (0.00181) \quad (0.16327) \]

\[ + 0.51827 \times \Delta \ln \text{PIPDAG}_- \\
\quad (0.08317) \]

\[ R^2 = 0.573 \quad S.E. = 0.0100 \quad D.W. = 1.64 \quad F.P. = 1958.3-1979.4 \]
A15 \[ \Delta \ln \text{PIPDO} = -0.00150 + 0.63225 \times \Delta \ln \text{PPNF}^{0.00086} (0.10467) \]

- 0.06716 \times \Delta \ln \text{PCRUDE} + 0.47978 \times \Delta \ln \text{PIPDO}_{-1}^{0.02217} (0.07670)

\[ R^2 = 0.773 \quad \text{S.E.} = 0.047 \quad \text{D.W.} = 2.23 \quad \text{F.P.} = 1958.3-1979.4 \]

A16 \[ \Delta \ln \text{PX} = -0.00175 + 1.2302 \times \Delta \ln \text{PPNF}^{0.00138} (0.15964) \]

- 0.52725 \times \Delta \ln \text{PPNF}_{-1}^{0.16907} + 0.06824 \times \Delta \ln \text{PFP}^{0.01507} \]

+ 0.44024 \times \Delta \ln \text{PX}_{-1}^{0.08286} \]

\[ R^2 = 0.670 \quad \text{S.E.} = 0.082 \quad \text{D.W.} = 2.03 \quad \text{F.P.} = 1954.3-1981.4 \]
B. Productivity and Employment

B1  \[ \Delta \ln \text{QMH77} = -0.08334 + 0.01269 \times \text{D5467} \]
    \[ + 0.00609 \times \text{D6873} \]
    \[ - 0.07574 \times \ln \left( \frac{\text{JIPM}}{\text{JCAP}} \right) + 0.65265 \times \Delta \ln \text{GNP72} \]
    \[ + 0.01331 \times \sum_{i=1}^{6} \beta_i \times \ln (\text{IBF72 - IPDAG72})_i \]

\[ \beta_i (0.1, 0.15, 0.25, 0.25, 0.15, 0.1) \]

\[ R^2 = 0.654 \quad \text{S.E.} = 0.0051 \quad \text{D.W.} = 1.95 \quad \text{F.P.} = 1959.3-1980.4 \]

B2  \[ \Delta \ln \text{REM} = -0.00394 + 0.27252 \times \Delta \ln \text{GNP72} \]
    \[ + 0.11239 \times \Delta \ln \text{GNP72} \_1 \]
    \[ + 0.2990 \times \frac{\text{RUM} \_1 + \text{RUM} \_2}{2} \times \sum_{i=1}^{2} \Delta \ln \text{GNP72} \_i \]
    \[ - 0.05975 \times \Delta \ln \text{QMH77} - 0.00071 \times \text{DVNUP} \]
    \[ - 0.00107 \times \text{DVNDOWN} \]

\[ R^2 = 0.789 \quad \text{S.E.} = 0.0021 \quad \text{D.W.} = 1.79 \quad \text{F.P.} = 1954.4-1979.4 \]
B3 \[ \text{RUG} = 0.70447 + (0.01710 - 0.00021 \times \text{DFPR}) \times \text{TIME} \]
\[
+ (0.94317 + 0.00232 \times \text{DFPR}) \times \text{RUM} + 0.4771 \times u_{-1}
\]

GLS

\[ R^2 = 0.987 \quad \text{S.E.} = 0.084 \quad \text{D.W.} = 2.05 \quad \text{F.P.} = 1954.3-1979.4 \]
C. Expenditure

\[ \text{AUTOS} = 1.0654 + 0.07349 \times \text{YPERM72} - 0.07050 \times \text{YPERM72}_1 \]
\[ + 0.00998 \times (\text{YT72} - 0.07050 \times \text{YT72}_1) \]
\[ - 4.6913 \times \left\{ \frac{2 \times \text{PAUTO} \times \text{DAUTO} + \text{PGAS} \times \text{DJGPM} \times \text{JGPM}}{3 \times \text{PC}_1} \right\} \]
\[ + \frac{(1 - \text{DJGPM}) \times \text{PGAS}}{3 \times \text{PC}_1} - 0.07050 \times \left\{ \frac{2 \times \text{PAUTO}_1 \times \text{DAUTO}_1}{3 \times \text{PC}_2} \right\} \]
\[ + \frac{\text{PGAS}_1 \times \text{DJGPM}_1 \times \text{JGPM}_1 + (1 - \text{DJGPM}_1) \times \text{PGAS}_1}{3 \times \text{PC}_2} \]
\[ + 0.00002 \times (\Delta \text{JICS}_1 \times \text{YPERM72}) \]
\[ - \frac{0.07050}{0.07349} \times \Delta \text{JICS}_2 \times \text{YPERM72}_1 \]
\[ - 0.44515 \times (\text{RUM}_1 - 0.07050 \times \text{RUM}_2) \]
\[ + 0.42899 \times \left( \sum_{i=1}^{3} \frac{(\text{RAAA-RCPCD})_i}{3} \right) \]
\[ - \frac{0.07050}{0.07349} \times \left( \sum_{i=2}^{4} \frac{(\text{RAAA-RCPCD})_i}{3} \right) \]
\[ + 0.50193 \times \text{DASTRIKE} - 0.32469 \times \text{DASTRIKE}_1 \]
- .16290 * \left\{ RAAA_1 - 100 \ln \left[ \frac{PC_1}{PC_5} \right] \right\} \\
- .07050 / .07349 * \left\{ RAAA_2 - 100 \ln \left[ \frac{PC_2}{PC_6} \right] \right\} \\
+ .65955 * AUTOS_1 \\
\text{(\.08691)}

R^2 = .906 \quad \text{S.E.} = .6080 \quad \text{D.W.} = 2.73 \quad \text{F.P.} = 1957.2-1981.4

\Delta CDAN72 = .09981 + (1.5228 + .00256 * YPERM72_1) * \Delta AUTOS \\
\text{(\.03275)} \quad \text{(\.31703)} \quad \text{(\.00050)} \\
- .68216 * \Delta (AUTOSIZE * AUTOS) - .4965 * \mu_1 \\
\text{(\.18882)}

\text{GLS}

R^2 = .957 \quad \text{S.E.} = .4715 \quad \text{D.W.} = 1.87 \quad \text{F.P.} = 1955.4-1979.4
C3 \[ \text{CDAO72} = -4.4820 - 0.09304 \times \Delta \text{AUTOS} \]
\[ \quad (0.93515) \quad (0.10914) \]
\[ + \left[ 0.00646 + 0.0075 \times \frac{3}{\sum_{i=1}^{3} (\text{RAAA}-\text{RCPCD})_{-i}} \right] \times \text{YPERM72}_{-1} \]
\[ + 2.6433 \times \frac{\text{PGAS} \times \text{JGPM}}{\text{PC}_{-1}} \]
\[ (0.88054) \]
\[ + 1.7848 \times \frac{\text{DJGPM} \times 2 \times \text{JGPM}}{\text{JGPM}_{-12} + \text{JGPM}_{-16}} \]
\[ (0.52875) \]
\[ + 0.24840 \times \text{DASTRIKE} + 0.80692 \times \text{CDAO72}_{-1} \]
\[ (0.13064) \quad (0.04032) \]
\[ - 0.22386 \times \Delta \text{CDAO72}_{-1} \]
\[ (0.09582) \]
\[ R^2 = 0.994 \quad \text{S.E.} = 0.5849 \quad \text{D.W.} = 2.20 \quad \text{F.P.} = 1958.1-1979.4 \]

C4 \[ \text{CDFE72} = -3.3466 + (0.00734 - 0.00005 \times \text{TIME}) \times \text{YPERM72}_{-1} \]
\[ (1.4966) \quad (0.00352) \quad (0.00003) \]
\[ + 0.02494 \times (\text{yd72} - \text{YPERM72}_{-1}) \]
\[ (0.00767) \]
\[ + 0.02775 \times (0.3 \times \text{IRC72} + 0.7 \times \text{IRC72}_{-1}) \]
\[ (0.01112) \]
\[ + 0.10177 \times (\text{RAAA}-\text{RCPCD})_{-1} - 0.20194 \times \Delta \text{CDFE72}_{-1} \]
\[ (0.06419) \quad (0.10350) \]
\[ + 0.93620 \times \text{CDFE72}_{-1} \]
\[ (0.04779) \]
\[ R^2 = 0.998 \quad \text{S.E.} = 0.5446 \quad \text{D.W.} = 1.92 \quad \text{F.P.} = 1955.3-1979.4 \]
C5  \[ CDO72 = 2.7557 + 0.01380 \times YD72 - 0.01116 \times YD72_{-1} \]
\[ (1.7342) \quad (0.00377) \quad (0.00372) \]
\[ - 15.065 \times \left[ \frac{PCDO}{PC} - (0.01116) \times \left( \frac{PCDO}{PC} \right)_{-1} \right] \]
\[ (5.4208) \]
\[ + 0.88652 \times CDO72_{-1} \]

\[ R^2 = 0.998 \quad S.E. = 0.2867 \quad D.W. = 2.17 \quad F.P. = 1954.3-1979.4 \]

C6  \[ CN72 = 62.484 + 0.12360 \times \Delta YD72 + 0.06970 \times YD72_{-1} \]
\[ (21.917) \quad (0.02620) \quad (0.02258) \]
\[ - 46.716 \times \left( \frac{PCN}{PC} \right)_{-1} - 219.95 \times \Delta \left( \frac{PCN}{PC} \right) + 0.76502 \times CN72_{-1} \]
\[ (17.431) \quad (47.859) \quad (0.07875) \]

\[ R^2 = 0.999 \quad S.E. = 1.688 \quad D.W. = 1.80 \quad F.P. = 1954.3-1979.4 \]

C7  \[ \Delta CS72 = 3.3566 + 0.05087 \times \Delta \left( \frac{YD + TSIP}{PC/100} \right) \]
\[ (0.22345) \quad (0.01542) \]
\[ + 23.446 \times \left( \frac{PCS}{PC} \right)_{-1} \]
\[ (3.8028) \]

\[ R^2 = 0.394 \quad S.E. = 1.086 \quad D.W. = 2.11 \quad F.P. = 1954.2-1979.4 \]
\[ \text{C8} \]
\[
IBFNC72 = 1.6697 + 0.02439 \times (\text{GNP72}_1 - \text{GNP72}_3)
\]
\[
+ 0.00561 \times \left[ \frac{TDEPRNC_{-4} - \frac{1}{60}}{1 + \frac{1}{4}} \right] \times \frac{5}{\sum \beta_i} \times \text{GNP72}_i
\]
\[
- 28.132 \times \sum_{i=2}^{5} \beta_i \times \left( \frac{\text{UCKNC}_{PPNF}}{i} \right)_{-1} + 0.88927 \times \text{IBFNC72}_{-1}
\]
\[
\beta_i = (0.4, 0.3, 0.2, 0.1)
\]
\[
R^2 = 0.985 \quad \text{S.E.} = 0.8931 \quad \text{D.W.} = 1.70 \quad \text{F.P.} = 1955.2 - 1979.4
\]

\[ \text{C9} \]
\[
IBFPD72 = \text{IPDQ72} + \text{IPDO72} + \text{IPDAG72}
\]
c10  IPDQ72  =  - 2.2345  +  0.05834  \times \frac{7 \sum_{i=2}^{6} \text{GNP72}_i}{(0.53164)(0.00925)}  \\
     - 0.05396  \times \frac{8 \sum_{i=3}^{6} \text{GNP72}_i}{(0.00902)}  \\
     - 6.2153  \times \left( \left[ \frac{9 \sum_{i=4}^{9} \text{UCKPDQ}_i}{\sum_{i=4}^{9} \text{JCMH}_i} \right] \right)  \\
     - \left( \frac{-0.05396}{0.05834} \right)  \times \left[ \frac{10 \sum_{i=5}^{10} \text{UCKPDQ}_i}{\sum_{i=5}^{10} \text{JCMH}_i} \right]  \\
     + 0.07045  \times \text{IBFNC72}_1  + 0.68843  \times \text{IPDQ72}_1

R^2 = 0.991  \quad S.E. = 0.4207  \quad D.W. = 1.37  \quad F.P. = 1960.3-1979.4
\[ \text{C11 } \text{IPDO72} = -6.9647 + 0.54490 \times \text{DASTRIKE} \]
\[
(1.6619) \quad (0.23378)
\]
\[+ 0.49501 \times \sum_{i=2}^{5} \left( \frac{\text{RAAA} - \text{RCPCD}}{4} \right) \]
\[
(0.18409) \quad (0.23378)
\]
\[+ 0.00636 \times \left[ \frac{\text{TDEPRO-4} - \frac{1}{6} + \text{TITCR-4} - 0.07}{4} \right] \times \sum_{i=3}^{5} \text{GNP72}_i \]
\[
(0.00146) \quad (0.23378)
\]
\[+ 0.03968 \times (\text{GNP72}_1 - \text{GNP72}_4) \]
\[
(0.01098) \quad (0.23378)
\]
\[+ 0.02410 \times \text{DUM74} \times (\text{GNP72}_4 - \text{GNP72}_8) \]
\[
(0.00864) \quad (0.23378)
\]
\[+ 0.70811 \times \text{IPDO72}_1 \]
\[
(0.06669) \quad (0.23378)
\]

\[ R^2 = 0.996 \quad \text{S.E.} = 1.267 \quad \text{D.W.} = 2.23 \quad \text{F.P.} = 1958.2-1979.4 \]

\[ \text{C12 } \text{IPDAG72} = 0.10183 \]
\[
(0.14190) \quad (0.23378)
\]
\[+ 0.00032 \times \left[ \frac{\text{TDEPRAG-4} - \frac{1}{6} + \text{TITCR-4} - 0.07}{4} \right] \times \sum_{i=3}^{5} \text{GNP72}_i \]
\[
(0.00010) \quad (0.23378)
\]
\[+ 0.15128 \times \Delta \text{IPDAG72}_1 + 0.73372 \times \text{IPDAG72}_1 \]
\[
(0.11491) \quad (0.07564) \quad (0.23378)
\]

\[ R^2 = 0.917 \quad \text{S.E.} = 0.3136 \quad \text{D.W.} = 1.89 \quad \text{F.P.} = 1958.3-1979.4 \]
\[ C13 \quad IRC72 = 3.3458 + 1.0290 \times \sum_{i=1}^{3} \beta_i \times (RAAA-RCPCD)_i + 0.0850 \times \sum_{i=1}^{3} \beta_i \times YD72_i - 2.2012 \times \frac{Q_{-1} \times PIRC + Q_{-2} \times PIRC_{-1}}{PC_{-1} + PC_{-2}} - 4.1318 \times D763 + 1.0918 \times IRC72_{-1} - 0.24449 \times IRC72_{-2} \]

\[ \beta_i (0.41, 0.49, 0.10) \]

\[ R^2 = 0.984 \quad S.E. = 1.385 \quad D.W. = 1.85 \quad F.P. = 1954.4-1979.4 \]

\[ C14 \quad \Delta HOUSES = -14.139 + 59.027 \times \Delta IRC72 + 12.418 \times \Delta IRC72_{-1} - 0.58331 \times \Delta HOUSES_{-1} - 0.25941 \times \Delta HOUSES_{-2} \]

\[ R^2 = 0.524 \quad S.E. = 97.78 \quad D.W. = 2.14 \quad F.P. = 1954.4-1980.4 \]
\[ IINV72 = -15.322 + 0.20032 \times (FS72 - \text{SERVE72})_1 \times (2.9477) \times (0.02935) \]

\[ -0.09823 \times SINV72_1 + 0.28021 \times \Delta M72 \times (0.01470) \times (0.17238) \]

\[ + 0.22240 \times IINV72_1 \times (0.08431) \]

\[ R^2 = 0.608 \quad \text{S.E.} = 4.134 \quad \text{D.W.} = 1.92 \quad \text{F.P.} = 1954.3-1979.4 \]

\[ \ln M72 = -1.9960 + (0.44480 + 0.13338 \times \Delta \ln SINV72) \times \ln GNP72 \times (0.50045) \times (0.10980) \times (0.06544) \]

\[ + 0.01040 \times \text{DAPACTM} + 0.04581 \times \text{DM72SS} \times (0.00525) \times (0.02786) \]

\[ -0.01666 \times \text{DM72SS}_1 + 0.02835 \times \text{DM72DOCK} \times (0.02845) \times (0.00449) \]

\[ -0.00786 \times \text{DM72DOCK}_1 + 0.72356 \times \ln M72_1 \times (0.00466) \times (0.06964) \]

\[ R^2 = 0.997 \quad \text{S.E.} = 0.0278 \quad \text{D.W.} = 1.67 \quad \text{F.P.} = 1955.4-1979.4 \]
D. Income Flows

\[ D1 \quad \Delta \ln YPWS = -0.00237 + 0.98731 \times \Delta \ln JCMH \]
\[ (0.00130) \quad (0.07824) \]
\[ + 1.2014 \times \Delta \ln GNP72 - 0.79930 \times \Delta \ln QMH77 \]
\[ (0.06082) \quad (0.07328) \]
\[ - 0.05887 \times \frac{\Delta \ln JCMH}{JCMH_{-1}} \]
\[ (0.01888) \]
\[ R^2 = 0.844 \quad S.E. = 0.0045 \quad D.W. = 2.09 \quad F.P. = 1954.2-1979.4 \]

\[ D2 \quad \Delta \ln YOL = 0.00814 + 0.42522 \times \Delta \ln YPWS \]
\[ (0.00218) \quad (0.07836) \]
\[ + 0.47304 \times \Delta \ln YOL_{-1} \]
\[ (0.07166) \]
\[ R^2 = 0.548 \quad S.E. = 0.0080 \quad D.W. = 1.77 \quad F.P. = 1954.3-1979.4 \]

\[ D3 \quad \Delta \ln YNFP = 0.00274 + 0.49252 \times \Delta \ln YPWS \]
\[ (0.00230) \quad (0.11660) \]
\[ + 0.07746 \times \Delta \ln YCP \]
\[ (0.02179) \]
\[ R^2 = 0.346 \quad S.E. = 0.0119 \quad D.W. = 1.37 \quad F.P. = 1954.2-1979.4 \]
\[ \Delta \ln YFP = -0.00160 + 0.93498 \times \Delta \ln GNP72 \\
(0.01004) \quad (0.70582) \]

\[ + 0.94477 \times \Delta \ln PFP + 0.19836 \times \Delta \ln PFP_{-1} \\
(0.13365) \quad (0.13127) \]

\[-0.62458 \times \Delta \ln PCRUDE_{-1} \\
(0.25219) \]

\[ R^2 = 0.427 \quad S.E. = 0.0690 \quad D.W. = 2.21 \quad F.P. = 1954.3-1979.4 \]

\[ \Delta YPINT = 0.03466 + 0.09408 \times \Delta \left( \frac{RCPCD+RCPCD_{-1}}{2} \right) \times \frac{2*YPINT_{-1}}{RCPCD_{-1}+RCPCD_{-2}} \\
(0.20750) \quad (0.00960) \]

\[ + 1.7560 \times \frac{RCPCD + RCPCD_{-1}}{200} \times \Delta \left( \frac{M2PLUS + M2PLUS_{-1}}{2} \right) \\
(0.25116) \]

\[ + 0.15918 \times \frac{RCPCD + RCPCD_{-1}}{200} \times \frac{YD*RHSAVE + (YD*RHSAVE)_{-1}}{200} \\
(0.09334) \]

\[ R^2 = 0.913 \quad S.E. = 1.367 \quad D.W. = 1.81 \quad F.P. = 1959.3-1981.4 \]

\[ \Delta \ln YUNB = 0.25506 + 0.21097 \times \Delta RUG \\
(0.31133) \quad (0.01899) \]

\[ + 1.0042 \times \Delta \ln \left( \frac{RUM}{RUG} \right) \\
(0.24861) \]

\[ + 0.26063 \times \ln \left( \frac{JCMH}{JCMH_{-4}} \right) - 1 \]

\[ \left( 0.33068 \right) \]

\[ + 0.56204 \times \text{DUBEXIT} \]

\[ (0.14537) \]

\[ R^2 = 0.779 \quad S.E. = 0.0619 \quad D.W. = 2.04 \quad F.P. = 1955.1-1979.4 \]
D7.A \[ \Delta (YCP+KCAC) = -0.78174 + 0.69306 \Delta \left[ \text{PPNF} \times \left( \frac{\text{GNP}}{\text{PGNP}} - \frac{\text{YGWS}}{\text{PG}} - \frac{\text{YFP}}{\text{PFP}} \right) \right] \]

\[ - 0.50191 \Delta \left[ \text{ULC77} \times \left( \frac{\text{GNP}}{\text{PGNP}} - \frac{\text{YGWS}}{\text{PG}} - \frac{\text{YFP}}{\text{PFP}} \right) \right] \]

\[ - 0.01438 \Delta \left[ \text{PCRUIDE} \times \left( \frac{\text{GNP}}{\text{PGNP}} - \frac{\text{YGWS}}{\text{PG}} - \frac{\text{YFP}}{\text{PFP}} \right) \right] \]

\[ - 0.09904 \sum_{i=1}^{2} \left( \frac{\text{RAA}}{100} \times \text{IBF} \right)_i \]

\[ R^2 = 0.899 \quad \text{S.E.} = 1.905 \quad \text{D.W.} = 1.71 \quad \text{F.P.} = 1954.3-1978.4 \]

D7.B \[ YCP = \text{GNP} - \text{KCA} - \text{TIBF} - \text{TIBSL} - \text{WALD} + \text{SLCSF} + \text{SLCSSL} \]

\[ - \text{STAT} - \text{TSI} + \text{YPDIV} + \text{GTRP} - \text{NINT} + \text{YPINT} - \text{YP} \]

D8 \[ \Delta \text{KCA} = -0.30463 + \left[ 0.01845 + 0.64988 \Delta \ln \text{PIBF} \right] \times \text{KCA}_1 \]

\[ + 0.04467 \Delta \text{IBF} \]

\[ R^2 = 0.881 \quad \text{S.E.} = 1.091 \quad \text{D.W.} = 2.69 \quad \text{F.P.} = 1954.2-1982.4 \]
\[ \Delta \text{KCAC} = -0.11005 + \left[ 0.01761 + 0.73130 \times \Delta \ln \text{PIBF} \right] \times \text{KCAC}_{-1} \]

\[ + 0.00478 \times \Delta \text{IBF} \]

\[ R^2 = 0.927 \quad \text{S.E.} = 0.5150 \quad \text{D.W.} = 2.57 \quad \text{F.P.} = 1954.2-1982.4 \]

\[ \text{D10} \quad \text{YPDIV} = 0.18268 + 0.02745 \times (\text{YCBT} - \text{TCF} - \text{TCSL}) \]

\[ + 0.01298 + \text{IVA} + 0.94171 \times \text{YPDIV}_{-1} \]

\[ R^2 = 0.998 \quad \text{S.E.} = 0.4947 \quad \text{D.W.} = 1.38 \quad \text{F.P.} = 1954.2-1979.4 \]

\[ \Delta \text{TIBF} = -0.00738 + (0.01096 + 0.01947 \times \text{DEX65}) \times \Delta \text{GNP} \]

\[ + 1.0642 \times \text{DTIB} \]

\[ R^2 = 0.743 \quad \text{S.E.} = 0.2890 \quad \text{D.W.} = 1.92 \quad \text{F.P.} = 1954.2-1979.4 \]

\[ \Delta \text{TIBSL} = 0.81166 + (-0.09511 + 0.03006 \times \ln \text{TIME}) \times \Delta \text{GNP} \]

\[ - 6.5319 \times \text{DPROP13} \]

\[ R^2 = 0.817 \quad \text{S.E.} = 0.4851 \quad \text{D.W.} = 1.09 \quad \text{F.P.} = 1954.2-1979.4 \]
\[ D13 \quad \Delta \ln \text{TSIF} = 0.00572 + 0.84110 \times \Delta \ln \text{YPWS} \quad (0.00337) \quad (0.16845) \]

\[ - 0.29170 \times \Delta \ln \left( \frac{\text{YPWS}}{\text{WCEIL}} \right) - 0.00692 \times \Delta \text{RUG} \quad (0.02463) \quad (0.00473) \]

\[ + 0.76098 \times \Delta \ln \text{TSIFR} \quad (0.03926) \]

\[ R^2 = 0.904 \quad \text{S.E.} = 0.0127 \quad \text{D.W.} = 2.58 \quad \text{F.P.} = 1954.2-1979.4 \]

\[ D14 \quad \Delta \ln \text{TSIP} = -0.00176 + 1.0374 \times \Delta \ln \text{TSI} \quad (0.00120) \quad (0.02706) \]

\[ R^2 = 0.936 \quad \text{S.E.} = 0.0093 \quad \text{D.W.} = 2.16 \quad \text{F.P.} = 1954.2-1979.4 \]

\[ D15 \quad \text{TCF} = 3.2450 + [-0.01730 + 0.75813 \times \text{TCFR}] \quad (0.79294) \quad (0.05311) \quad (0.11064) \]

\[ + 0.00034 \times \Delta (\text{YCBT-TCSL})] \times (\text{YCBT-TCSL}) \quad (0.00007) \]

\[ - (0.29628 \times \text{TITCR}_{-1} + 0.17327 \times \Delta \text{TITCR}) \times \text{IBFPD} \quad (0.09531) \quad (0.07373) \]

\[ + 0.8593 \times \mu_{-1} \]

\[ \text{GLS} \]

\[ R^2 = 0.974 \quad \text{S.E.} = 0.5788 \quad \text{D.W.} = 2.36 \quad \text{F.P.} = 1954.2-1978.4 \]

\[ D16 \quad \Delta \text{TCSL} = 0.02065 + (0.00961 + 0.00047 \times \text{TIME}) \times \Delta \text{YCBT} \quad (0.02014) \quad (0.01118) \quad (0.00013) \]

\[ R^2 = 0.727 \quad \text{S.E.} = 0.1929 \quad \text{D.W.} = 2.24 \quad \text{F.P.} = 1954.2-1979.4 \]
D17  $\Delta$ TPSL = $0.02766 + 0.02997 \times \Delta (YP-GTROF-GTRSL-YUNB+TSIP)$
      $(0.07072) (0.00506)$
      $+ 0.31651 \times D674 + 0.15778 \times D711$
      $(0.15180) (0.17755)$

$R^2 = 0.645$  S.E. = 0.4637  D.W. = 1.70  F.P. = 1954.3-1979.4

D18  $\Delta$ TP = $(0.20 + DTPR) \times \Delta (YP-GTROF-GTRSL-YUNB+TSIP) + DTP$

D19  $\Delta$ GINTF = $0.10899 + 0.22186 \times \frac{RG5}{100} \times \Delta GDEBTP$
      $(0.05096) (0.08331)$
      $+ 0.48158 \times \Delta GINTF_{-1} + 0.19691 \times \frac{RG5}{100}_{-1} \times \Delta GDEBTP_{-1}$
      $(0.08280) (0.09053)$

$R^2 = 0.501$  S.E. = 0.4200  D.W. = 2.44  F.P. = 1954.4-1979.4
E. Monetary Sector

E1 \[ \ln M2PLUS = -0.13789 - 0.03476 \times \ln RG5 \]
\[ (-0.02773) \quad (-0.00721) \]
\[ + 0.17684 \times \ln GNP + 0.84578 \times \ln M2PLUS_{-1} \]
\[ (-0.05531) \quad (-0.05462) \]
\[ + 0.25372 \times \frac{\Delta GDEBTP}{GNP} + 0.3791 \times \mu_{-1} \]
\[ (-0.09588) \]

GLS

\[ R^2 = 0.999 \quad S.E. = 0.0055 \quad D.W. = 2.05 \quad F.P. = 1959.3-1981.4 \]

E2 \[ \ln RTB = -1.1232 - 0.01468 \times DSEAS1 + 0.01410 \times DSEAS2 \]
\[ (-0.27889) \quad (-0.01254) \quad (-0.01804) \]
\[ + 0.01492 \times DSEAS3 + 1.5501 \times \ln RDIS \]
\[ (-0.01324) \quad (-0.13591) \]
\[ - 0.86697 \times \ln RDIS_{-1} - 1.9248 \times \ln MBASE \]
\[ (-0.12024) \quad (-0.43138) \]
\[ + 1.3985 \times \ln M2PLUS + 1.0505 \times \Delta \ln GDEBTP \]
\[ (-0.31006) \quad (-0.47862) \]
\[ + 0.47168 \times \ln RTB_{-1} \]
\[ (-0.09659) \]

\[ R^2 = 0.975 \quad S.E. = 0.0639 \quad D.W. = 1.55 \quad F.P. = 1959.2-1979.4 \]
E3  \[ \Delta \text{MBASE} = 0.15898 + 0.11810 \times \text{DSEAS1} \]
\[ + 0.22978 \times \text{DSEAS2} - 0.21707 \times \text{DSEAS3} \]
\[ + 0.95690 \times \text{FDCUR} - 0.20505 \times \Delta \text{MRAM} \]
\[ + 0.39383 \times \Delta (\text{RTB} - \text{RDIS}) \]
\[ R^2 = 0.819 \quad \text{S.E.} = 0.4003 \quad \text{D.W.} = 1.96 \quad \text{F.P.} = 1959.2-1979.4 \]

E4  \[ \Delta \text{MRAM} = 0.00745 - 1.2567 \times \Delta \text{RRDEM} + 0.19502 \times \text{DSEAS1} \]
\[ - 0.05266 \times \text{DSEAS2} - 0.10923 \times \text{DSEAS3} + \text{DRAM} \]
\[ R^2 = 0.634 \quad \text{S.E.} = 0.3700 \quad \text{D.W.} = 1.77 \quad \text{F.P.} = 1954.2-1979.4 \]
\[ \Delta \text{GDEBTP} = 0.30717 + 4.7328 \times \text{DUM75} - (1 + 0.20621 \times \text{DSEAS1} - 0.15706 \times \text{DSEAS2} - 0.05094 \times \text{DSEAS3}) \times \frac{\text{NIASF}}{4} \]
\[ - (1 - 2.1389 \times \text{DSEAS1} + 3.9327 \times \text{DSEAS2}) \times 0.15706 \times \text{DSEAS2} - 0.05094 \times \text{DSEAS3} \times (0.13344)(0.12644) \]
\[ + 0.09058 \times \text{DSEAS3} \times \text{FDCUR} - 1.2606 \times \text{DSEAS1} \times 0.78973 \times (0.93591) \]
\[ - 4.2915 \times \text{DSEAS2} + 3.1293 \times \text{DSEAS3} \times 0.86585 \times (1.0149) \]
\[ + \Delta \text{GCBDD} + \Delta \text{GOLD} + \Delta \text{TCO} + \Delta \text{SDR} \]

\[ R^2 = 0.902 \quad \text{S.E.} = 3.071 \quad \text{D.W.} = 2.03 \quad \text{F.P.} = 1959.2-1980.4 \]

\[ \Delta \text{GCBDD} = 1.4650 + 0.03061 \times \text{DSEAS1} + 0.48334 \times \text{DSEAS2} \times 0.21633 \times (0.07028) \]
\[ - 0.23139 \times \text{DSEAS3} - 0.23982 \times \text{GCBDD}_1 \times 0.21508 \times (0.21508) \]

\[ R^2 = 0.168 \quad \text{S.E.} = 1.261 \quad \text{D.W.} = 2.26 \quad \text{F.P.} = 1954.2-1979.4 \]
\[ \text{E7} \]
\[
\begin{align*}
\text{RG5} &= 0.05227 + 0.04158 \times \text{DSEAS1} + 0.03345 \times \text{DSEAS2} \\
&\quad + 0.02702 \times \text{DSEAS3} + 0.03903 \times \text{RTB}_1 \\
&\quad + 0.30635 \times \Delta \text{RTB} + 0.19091 \times \text{RAAA}_2 \\
&\quad + 1.0976 \times \Delta \text{RAAA} - 1.5924 \times \left[ \frac{\text{PPNF}}{\text{PPNF}_2} - \frac{\text{PPNF}_2}{\text{PPNF}_4} \right] \\
&\quad + 0.74419 \times \text{RG5}_1
\end{align*}
\]
\[
\begin{align*}
R^2 &= 0.995 \\
\text{S.E.} &= 0.1361 \\
\text{D.W.} &= 1.97 \\
\text{F.P.} &= 1955.1-1979.4
\end{align*}
\]

\[ \text{E8} \]
\[
\begin{align*}
\text{RAAA} &= -3.1925 + 0.27273 \times \text{RTB} - 0.26205 \times \text{RTB}_1 \\
&\quad + 0.08210 \times \text{RTB}_2 - 0.01903 \times \text{DSEAS1} + 0.03884 \times \text{DSEAS2} \\
&\quad - 0.02433 \times \text{DSEAS3} + 3.3057 \times \left[ \frac{\text{PPNF}}{\text{PPNF}_2} + \frac{9.0921}{\text{PPNF}_2} \right] - 0.01503 \times \text{RAAA}_1
\end{align*}
\]
\[
\begin{align*}
R^2 &= 0.996 \\
\text{S.E.} &= 0.1388 \\
\text{D.W.} &= 1.73 \\
\text{F.P.} &= 1954.3-1979.4
\end{align*}
\]

\[ \text{E9} \]
\[
\begin{align*}
\text{RCP} &= 0.40013 + 0.93350 \times \text{RCD} + 0.6269 \times \mu_1 \\
&\quad - 0.06469 \times \text{RCD} + 0.00894 \times \mu_1
\end{align*}
\]
\[
\begin{align*}
\text{GLS} \\
R^2 &= 0.994 \\
\text{S.E.} &= 0.0910 \\
\text{D.W.} &= 2.03 \\
\text{F.P.} &= 1963.1-1979.4
\end{align*}
\]
E9'  \[ \text{RCP} = 5.7865 + 1.0301 \times \text{RTB} - 0.48010 \times \text{RTB}_1 - 0.06910 \times \text{DSEAS1} + 0.07194 \times \text{DSEAS2} + 0.04028 \times \text{DSEAS3} \]
\[ (1.3301) (0.03788) (0.08607) (0.03665) (0.03647) (0.03690) \]
\[ + 1.6878 \times \text{DSPRD} - 5.6875 \times \frac{\text{PPNF}}{\text{PPNF}-4} + 0.54373 \times \text{RCP}_1 \]
\[ (1.15855) (1.3443) (0.05874) \]
\[ R^2 = 0.993 \quad \text{S.E.} = 0.2038 \quad \text{D.W.} = 1.53 \quad \text{F.P.} = 1955.1-1979.4 \]

E10  \[ \text{RCD} = -0.27379 + 1.1292 \times \text{RTB} - 0.45348 \times \text{RTB}_1 \]
\[ (1.0817) (0.04700) (0.10842) \]
\[ + 1.8356 \times \text{DSPRD} - 5.9351 \times \left[ \frac{\text{PPNF}}{\text{PPNF}-4} - 1 \right] \]
\[ (1.18150) (1.7344) \]
\[ -0.13828 \times \text{DSEAS1} + 0.07212 \times \text{DSEAS2} + 0.08625 \times \text{DSEAS3} \]
\[ (0.05060) (0.05032) (0.05056) \]
\[ + 0.49012 \times \text{RCD}_1 \]
\[ (0.06800) \]
\[ R^2 = 0.991 \quad \text{S.E.} = 0.2278 \quad \text{D.W.} = 1.96 \quad \text{F.P.} = 1963.2-1979.4 \]
\[ \ln \left( \frac{\text{M1PLUS}}{\text{M2PLUS}} \right) = 0.00404 - 0.00513 \times \text{RTB} + 0.00280 \times \Delta \text{RTB}_{-1} \]

\[ + 0.00389 \times \text{RTB}_{-2} + 1.4203 \times \ln \left( \frac{\text{M1PLUS}}{\text{M2PLUS}} \right)_{-1} \]

\[- 0.00200 \times \text{D66} - 0.42056 \times \ln \left( \frac{\text{M1PLUS}}{\text{M2PLUS}} \right)_{-2} \]

\[ R^2 = 0.999 \quad \text{S.E.} = 0.0049 \quad \text{D.W.} = 2.04 \quad \text{F.P.} = 1959.3-1979.4 \]
F. Output Composition

\[ F_1 \quad \Delta \text{SERVE}_72 = 1.3610 + 1.1472 \cdot \Delta \text{CS}_72 \]
\[ \quad \quad \quad \quad \quad (0.43699) \quad (0.12533) \]
\[ \quad + 0.0332 \cdot \Delta (\text{GNP}_72 - \text{CS}_72) \]
\[ \quad \quad \quad \quad \quad (0.01778) \]
\[ \quad - 0.1103 \cdot \Delta \text{SERVE}_{72-1} \]
\[ \quad \quad \quad \quad \quad (0.07565) \]

\[ R^2 = 0.500 \quad \text{S.E.} = 1.663 \quad \text{D.W.} = 1.96 \quad \text{F.P.} = 1954.3-1979.4 \]

\[ F_2 \quad \text{JIPM} = -15.471 + 0.14984 \cdot \text{FSMF}_72 \]
\[ \quad \quad \quad \quad \quad (2.2098) \quad (0.02132) \]
\[ \quad + 0.0984 \cdot \text{CN}_72 + 0.12394 \cdot \text{FSNMF}_72 \]
\[ \quad \quad \quad \quad \quad (0.02175) \quad (0.02402) \]
\[ \quad + \left( 0.06695 - 0.00141 \sum_{i=1}^{4} \text{IINV}_72_i \right) \cdot \Delta (\text{FS}_72 - \text{SERVE}_72) \]
\[ \quad \quad \quad \quad \quad (0.04255) \quad (0.00077) \]
\[ \quad + 0.20636 \cdot \text{IINV}_72 + 0.43127 \cdot \text{JIPM}_{-1} \]
\[ \quad \quad \quad \quad \quad (0.02587) \quad (0.05944) \]

\[ R^2 = 0.999 \quad \text{S.E.} = 1.177 \quad \text{D.W.} = 1.44 \quad \text{F.P.} = 1955.1-1979.4 \]
\[ \Delta \ln \text{JCAP} = 0.04959 - 0.00502 \times D5864 - 0.00226 \times D7074^{(0.00845)} \times (0.00078)^{1.00037} \]

\[ + \left[ \begin{array}{c} 0.00785 + 0.00544 \times \frac{\text{JCU}_1 + \text{JCU}_2}{2} \\ 0.00519 + 0.00156 \end{array} \right] \]

\[ * \sum_{i=0}^{1} \beta_i * \ln(\text{IBFNC72} + \text{IPDQ72})_i - 0.01817 \times \ln \text{JCAP}_1^{(0.00206)} \]

\[ \beta_i (0.7, 0.3) \]

\[ R^2 = 0.905 \quad \text{S.E.} = 0.0011 \quad \text{D.W.} = 1.42 \quad \text{F.P.} = 1958.4-1979.4 \]
G. Miscellaneous Definitions

G1 \( ULC77 = \frac{JCMH}{QM77} \times 100 \)

G2 \( RUM = 100 - REM \)

G3 \( GTRP = GTROF + GTRSL + YUNB \)

G4 \( YP = YPWS + YGWS + YOL + YFP + YNFP + YPRENT + YPDIV + YPINT + GTRP + BTRP - TSIP \)

G5 \( YD = YP - TP \)

G6 \( YD72 = \frac{YD}{PC} \times 100 \)

G7 \( \text{YPERM72} = 5 \sum_{i=0}^{\infty} \beta_i \times \left[ \frac{(TPNS - GTRP)}{PC/100} \right] \)

\( \beta_i (.271, .217, .173, .139, .111, .089) \)

G8 \( YT72 = YD72 + \left( \frac{TPNS - GTRP}{PC/100} \right) - \text{YPERM72} \)

G9 \( RHSAVE = \left( \frac{YD - C - HINT - HTRF}{YD} \right) \times 100 \)

G10 \( YCBT = YCP - IVA - KCCA \)

G11.A \( \text{STAT} = GNP - KCA - TIBF - TIBSL - WALD + SLCSF + SLCSSL - YCP - TSI + YPDIV + GTRP - NINT + YPINT - YP \)

G11.B \( \text{STAT is exogenous} \)

G12 \( TIB = TIBF + TIBSL \)
G13  \[ TSI = TSIF + TSISL \]

G14  \[ TC = TCF + TCSL \]

G15  \[ NIASF = TP - TPSL + TCF + TIBF + TSIF - (GFD + GFO + GTROF + YUNB + GTRF + GAID + GINTF + SLCSF - GUALDF) \]

G16  \[ NIASSL = TPSL + TCSL + TIBSL + TSISL + GAID - (GSL + GTRSL + GINTSL + SLCSL - GUALDSL - GDIVSL) \]

G17  \[ CDA72 = CDAN72 + CDAO72 \]

G18  \[ C72 = CDA72 + CDFE72 + CDO72 + CN72 + CS72 \]

G19  \[ C = \frac{PCDA}{100} \times CDA72 + \frac{PCDFE}{100} \times CDFE72 + \frac{PCDO}{100} \times CDO72 + \frac{PCN}{100} \times CN72 + \frac{PCS}{100} \times CS72 \]

G20  \[ PC = \frac{C}{C72} \times 100 \]

G21  \[ JCMHD = \frac{JCMH}{PC} \times 100 \]

G22  \[ IBF72 = IBFPD72 + IBFNC72 \]

G23  \[ IBFNC = IBFNC72 \times \frac{PINC}{100} \]

G24  \[ IBFPD = IBFPD72 \times \frac{PIPD}{100} \]

G25  \[ IBF = IBFPD + IBFNC \]
G26  $\text{PIBF} = \frac{\text{IBF}}{\text{IBF72}} \times 100$

G27  $\text{UCKNC} = \text{PINC} \times \left( \frac{\text{RAAA}}{100} + .06 \right)$

G28  $\text{UCKPDQ} = \text{PIPDQ} \times \left\{ \begin{array}{l}
\text{RAAA/100} - \frac{\text{PPNF}_5 - 1}{\text{PPNF}_5} \\
- \frac{1}{1 - \text{TITCR} \times \frac{5}{6}} \times \left\{ \text{TDEPQ} - \frac{1}{6} + \frac{\text{PPNF}_5 - 1}{\text{PPNF}_5} \right\} \times \text{TITCR}
\end{array} \right\}$

G29  $\text{IRC} = \text{IRC72} \times \frac{\text{PIRC}}{100}$

G30  $\text{IINV} = \text{IINV72} \times \frac{\text{PIINV}}{100}$

G31  $\text{SINV72} = \text{SINV72}_1 + \text{IINV72}$

G32  $\text{M} = \text{M72} \times \frac{\text{PM}}{100}$

G33  $\text{GNP72} = \text{C72} + \text{IBF72} + \text{IRC72} + \text{IINV72} + \frac{\text{GFD} + \text{GFO} + \text{GSL}}{\text{PG/100}}$

+ $\text{X72} - \text{M72}$

G34  $\text{GNP} = \text{C} + \text{IBF} + \text{IRC} + \text{IINV} + \text{GFD} + \text{GFO} + \text{GSL} + (\text{X72} \times \frac{\text{PX}}{100}) - \text{M}$
G35 \[ \text{PGNP} = \frac{\text{GNP}}{\text{GNP72}} \times 100 \]

G36 \[ \text{FS72} = \text{GNP72} - \text{IINV72} \]

G37 \[ \text{FS} = \text{GNP} - \text{IINV} \]

G38 \[ \text{FSMF72} = \text{CDA72} + \text{CFDE72} + \text{CDO72} + \text{IBFPD72} \]
\[ + \text{X72} - \text{M72} + \left( \frac{\text{GFO} + \text{GFD} + \text{GSL}}{\text{PG/100}} \right) \]
\[ - \text{EGOV} \times 8.709 \]

G39 \[ \text{FSNMF72} = \text{FS72} - \text{SERVE72} - \text{CN72} - \text{FSMF72} \]

G40 \[ \text{GNPERM72} = \sum_{i=0}^{4} \beta_i \times \text{GNP72}_{-i} \]
\[ \beta_i = (0.297, 0.238, 0.190, 0.153, 0.122) \]

G41 \[ \text{GDEBTM} = \frac{\text{GINTF}}{4} \times \left[ 15 \sum_{i=0}^{4} \frac{1}{1 + \frac{\text{RG5}_i}{400}} \right] + \frac{\text{GDEBTP}}{1 + \frac{\text{RG5}}{400}} \]

G42 \[ \text{RBASE} = \left[ \left( \frac{\text{MBASE}}{\text{MBASE}_{-1}} \right)^4 - 1 \right] \times 100 \]

G43 \[ \text{RM2PLUS} = \left[ \left( \frac{\text{M2PLUS}}{\text{M2PLUS}_{-1}} \right)^4 - 1 \right] \times 100 \]

G44 \[ \text{RCPCD} = \begin{cases} \text{RCP} \text{ from 1954.1-1962.4} \\ \text{RCD} \text{ from 1963.1-present} \end{cases} \]
G45 \[ \text{RPPERM} = \sum_{i=1}^{8} \beta_i \times 100 \times \Delta \ln \text{PC}_i \]

\[ \beta_i = (0.241, 0.192, 0.154, 0.123, 0.098, 0.079, 0.063, 0.05) \]

G46 \[ Q = 1 + 0.4 \times \frac{\text{RCPCD}}{100} \times \frac{1 - \left(\frac{1}{1 + \text{RCPCD}/100}\right)^{21}}{1 - \left(\frac{1}{1 + \text{RCPCD}/100}\right)} \]

G47 \[ \text{JCU} = \frac{\text{JIPM}}{\text{JCAP}} \]

G48 \[ \text{QMHT} = 0.5 \times \sum_{i=1}^{8} [-0.08334 + 0.01269 \times \text{D5467} + 0.00609 \times \text{D6873} \]

\[ - 0.07574 \times \ln \left(\frac{\text{JIPM}}{\text{JCAP}}\right) \]

\[ + 0.65265 \times (\Delta \ln \text{GNP72}) \]

\[ + 0.01331 \times \sum_{j=1}^{6} \beta_j \times \ln(\text{IBF72} - \text{IPDAG72})_{-j} \]  

\[ \beta_j = (0.1, 0.15, 0.25, 0.25, 0.15, 0.1) \]

\[ \frac{\text{JIPM}}{\text{JCAP}} = \frac{1980.4 \times \text{JIPM}_i}{\sum_{i=1955.3}^{102} \text{JIPM}_i} \]

\[ (\Delta \ln \text{GNP72}) = \frac{1980.4 \times \text{(ln GNP72)}_i}{\sum_{i=1955.3}^{102} \text{ln GNP72}_i} \]

G49 \[ \text{NINT} = \text{YPINT} - (\text{GINTF} - \text{GINTFF}) - \text{GINTSL} - \text{HINT} \]
NOTATION

Most variables are denoted by a suggestive mnemonic. The following rules are followed throughout: i) the same mnemonic is used to represent current and constant dollar expenditure variables, except that the constant dollar version ends with "72", ii) price deflators are represented by a leading "P" followed by the category mnemonic, iii) all mnemonics for consumption expenditure variables begin with a "C", iv) all mnemonics for investment expenditure variables begin with an "I", v) all mnemonics for a dummy variable begin with a "D", vi) all mnemonics for tax variables or tax rates begin with "T", vii) all mnemonics beginning with "R" represent variables scaled in percentage point units.

In the following list, a variable preceded by * is endogenous to the Michigan Model.

*AUTOS
Units of retail new car sales; millions of units, SAAR.

AUTOSIZE
Ratio of the number of small car sales (domestic and foreign) to total new car sales.

BTRP
Business transfer payments, billions of current dollars.

*C
Personal consumption expenditures, total; billions of current dollars.

*CDAN72
Personal consumption expenditures, new automobiles; billions of 1972 dollars.

*CDAO72
CDA72 minus CDAN72, billions of 1972 dollars.

*CDA72
Personal consumption expenditures, motor vehicles and parts; billions of 1972 dollars.

*CDFE72
Personal consumption expenditures, furniture and household equipment; billions of 1972 dollars.

*CD072
Personal consumption expenditures, durable goods except motor vehicles and parts, and furniture and household equipment; billions of 1972 dollars.

*CN72
Personal consumption expenditures, nondurable goods; billions of 1972 dollars.

*CS72
Personal consumption expenditures, services; billions of 1972 dollars.

*C72
Personal consumption expenditures, total; billions of 1972 dollars.

DAPACTM
Dummy variable to reflect Canadian auto pact, values defined in the Appendix.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DASTRIKE</td>
<td>Dummy variable for auto strikes, values defined in the Appendix.</td>
</tr>
<tr>
<td>DATE</td>
<td>Quarterly calendar date.</td>
</tr>
<tr>
<td>DAUTO</td>
<td>Dummy variable to reflect 1975 auto rebates and reaction to higher auto prices in 1974; equals .90 in 1974.2 and 1974.3, .95 in 1975.1 and 1975.2, equals 1.0 otherwise.</td>
</tr>
<tr>
<td>DEX65</td>
<td>Dummy variable for the change in federal excise tax law, equals 1 from 1954.1-1964.1, 0 otherwise.</td>
</tr>
<tr>
<td>DFPR</td>
<td>Dummy variable to reflect shift in relation between RUM and RUG, values defined in the Appendix.</td>
</tr>
<tr>
<td>DFROFF</td>
<td>Dummy variable for removal of price controls; equals .25 in 1974.2-1975.1, 0 otherwise.</td>
</tr>
<tr>
<td>DFRZ1</td>
<td>Dummy variable to reflect price freeze and Phase II effects on prices and compensation.</td>
</tr>
<tr>
<td>DFRZ2</td>
<td>DFRZ1 equals -1.0 in 1971.4</td>
</tr>
<tr>
<td>DFRZ3</td>
<td>DFRZ2 equals .5 in 1971.3, 1.0 in 1971.4</td>
</tr>
<tr>
<td>DGPAY</td>
<td>Dummy variable to reflect government pay increases, values defined in the Appendix.</td>
</tr>
<tr>
<td>DJGPM</td>
<td>Dummy variable to reflect increased consumer awareness of gas mileage in the cost of running a new car, equals zero from 1954.1 to 1974.4, 1 otherwise.</td>
</tr>
<tr>
<td>DM72DOCK</td>
<td>Dummy variable for dock strikes, values defined in the Appendix.</td>
</tr>
<tr>
<td>DM72SS</td>
<td>Dummy variable to reflect steel strike in import equation; equals .5 in 1959.2, 1.0 in 1959.3, zero otherwise.</td>
</tr>
<tr>
<td>DPGAS</td>
<td>Dummy variable for availability of PGAS series, equals 1 from 1954.1 to 1957.1, zero otherwise.</td>
</tr>
<tr>
<td>DPROP13</td>
<td>Dummy variable for the effect of Proposition 13 on state and local indirect business taxes; equals 1 in 1978.3, 0 otherwise.</td>
</tr>
<tr>
<td>DRAM</td>
<td>Dummy variable for the effect on MRAM of changes in the structure of reserve requirements on demand and time deposits, values defined in the Appendix.</td>
</tr>
<tr>
<td>DSEAS1</td>
<td>Dummy variable equal to 1 in the first quarter, -1 in the fourth quarter, zero otherwise.</td>
</tr>
</tbody>
</table>
DSEAS2  Dummy variable equal to 1 in the second quarter, -1 in the fourth quarter, zero otherwise.

DSEAS3  Dummy variable equal to 1 in the third quarter, -1 in the fourth quarter, zero otherwise.

DSPRD  Dummy variable for anomaly in spread between RCP and RTB; equals 1.0 in 1974.2 and 1974.3, zero otherwise.

DTCF  Revenue effect of federal tax law changes on federal corporate taxes, billions of current dollars.

DTEX  Dummy variable to reflect direct price effects of changes in excise tax laws in 1965, values defined in the Appendix.

DTIB  Dummy variable to reflect changes in indirect business taxes, values defined in the Appendix.

DTP  Dummy variable to reflect changes in personal taxes, values defined in the Appendix.

DTPR  Dummy variable for personal tax rate.

DTSI  Dummy variable which assumes values equal to the revenue effect of changes in social insurance tax law, values defined in the Appendix.

DUBEXT  Dummy variable for the extension of unemployment benefits beyond 26 weeks, values defined in the Appendix.

DUM74  Dummy variable in IPDO72 equation; equals 0 in 1954.1-1973.4, 1 otherwise.

DUM75  Dummy variable in GDEBTP equation; equals 0 in 1954.1-1974.4, 1 otherwise.

DVNDOWN  Dummy variable to reflect effects of wind-down of Vietnam War on employment; equals 1.0 in 1970.1-1972.2, zero otherwise.

DVNUP  Dummy variable to reflect effects of Vietnam War build-up on employment; equals 1.0 in 1965.3-1966.4, zero otherwise.

D5467  Dummy variable for change in trend growth of productivity; equals 1 in 1954.1-1967.4, 0 otherwise.

D5864  Dummy variable in JCAP equation; equals 1 in 1958.1-1964.4, 0 otherwise.

D66  Dummy variable in M1PLUS equation; equals 0 in 1954.1-1965.4, 1 otherwise.

D674  Dummy variable for state income tax law changes; equals 0 in 1954.1-1967.3, 1 otherwise.
D6873 Dummy variable for change in trend growth of productivity; equals 1 in 1968.1-1973.4, 0 otherwise.

D7074 Dummy variable in JCAP equation; equals 1 in 1970.1-1974.2, 0 otherwise.

D711 Dummy variable for state personal income tax law changes; equals 0 in 1954.1-1970.4, 1 otherwise.

D763 Dummy variable for IRC72 equation; equals 1 in 1976.3, 0 otherwise.

EGOV Government employment, including armed forces; millions of persons.

*FDCUR Change from previous quarter in currency held by the public plus unborrowed reserves, billions of current dollars, SA.

*FS Final sales, billions of current dollars.

*FSMF72 Final sales of manufactured goods, billions of 1972 dollars.

*FSNMF72 Final sales of non-manufactured goods, billions of 1972 dollars.

*FS72 Final sales; billions of 1972 dollars.

GAID Grants-in-aid to state and local governments, billions of dollars.

*GCBDD U.S. government deposits except demand deposits at Federal Reserve Banks, N.S.A., average for last month of the quarter.

*GDEBTM Market value of federal debt held by private investors, billions of current dollars, N.S.A.

*GDEBTP Gross public debt of the U.S. Treasury held by private investors, billions of current dollars N.S.A., last day of quarter.

GDIVSL Dividends received by government, billions of current dollars.

GFD Federal defense purchases of goods and services, billions of current dollars.

GFO Federal nondefense purchases of goods and services, billions of current dollars.

*GINTF Net interest paid by federal government, billions of current dollars.

GINTFF Interest paid by government to foreigners, billions of current dollars.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GINTSL</td>
<td>Net interest paid by state and local government, billions of current dollars.</td>
</tr>
<tr>
<td>*GNP</td>
<td>Gross national product, billions of current dollars.</td>
</tr>
<tr>
<td>*GNPERM72</td>
<td>&quot;Permanent&quot; GNP, billions of 1972 dollars.</td>
</tr>
<tr>
<td>*GNP72</td>
<td>Gross national product, billions of 1972 dollars.</td>
</tr>
<tr>
<td>GOLD</td>
<td>Gold stock, billions of current dollars N.S.A., last day of quarter.</td>
</tr>
<tr>
<td>GSL</td>
<td>State and local government purchases of goods and services, billions of current dollars.</td>
</tr>
<tr>
<td>GTRF</td>
<td>Federal government transfer payments to foreigners, billions of current dollars.</td>
</tr>
<tr>
<td>GTROF</td>
<td>GTRP minus YUNB minus GTRSL, billions of current dollars.</td>
</tr>
<tr>
<td>*GTRP</td>
<td>Government transfer payments to persons, total; billions of current dollars.</td>
</tr>
<tr>
<td>GTRSL</td>
<td>State and local government transfer payments to persons, billions of current dollars.</td>
</tr>
<tr>
<td>GWALDF</td>
<td>Government wage accruals less disbursements, federal; billions of current dollars.</td>
</tr>
<tr>
<td>GWALDSL</td>
<td>Government wage accruals less disbursements, state and local; billions of current dollars.</td>
</tr>
<tr>
<td>HINT</td>
<td>Interest paid by consumers to business, billions of current dollars.</td>
</tr>
<tr>
<td>*HOUSES</td>
<td>Private housing starts, thousands of units, SAAR.</td>
</tr>
<tr>
<td>HTRF</td>
<td>Personal transfers to foreigners, billions of current dollars.</td>
</tr>
<tr>
<td>*IBF</td>
<td>Business fixed investment, billions of current dollars.</td>
</tr>
<tr>
<td>*IBFNC</td>
<td>Nonresidential fixed investment, structures; billions of current dollars.</td>
</tr>
<tr>
<td>*IBFNC72</td>
<td>Nonresidential fixed investment, structures; billions of 1972 dollars.</td>
</tr>
<tr>
<td>*IBFPD</td>
<td>Nonresidential fixed investment, producers' durable equipment; billions of current dollars.</td>
</tr>
<tr>
<td>*IBFPD72</td>
<td>Nonresidential fixed investment, producers' durable equipment; billions of 1972 dollars.</td>
</tr>
<tr>
<td>*IBF72</td>
<td>Business fixed investment, billions of 1972 dollars.</td>
</tr>
</tbody>
</table>
Change in business inventories, billions of current dollars.

Change in business inventories, billions of 1972 dollars.

Nonresidential fixed investment, producers' durable equipment in agriculture; billions of 1972 dollars.

Nonresidential fixed investment, producers' durable equipment except in agriculture and production; billions of 1972 dollars.

Nonresidential fixed investment, producers' durable equipment in production; billions of 1972 dollars.

Residential construction expenditures, billions of current dollars.

Residential construction expenditures, billions of 1972 dollars.

Inventory valuation adjustment for corporate profits, billions of current dollars.

Index of available capacity in manufacturing, 1967=100.

Compensation per manhour, private nonfarm sector; index, 1977 = 100.

Real compensation per manhour; JCMH deflated by personal consumption expenditures implicit deflator.

Federal Reserve Board index of capacity utilization in Manufacturing, expressed as index between zero and unity (based on 1967 output = 1.0).

Index of gallons per mile for new cars, 1967 = 1.0.

Index of consumer sentiment, February 1966 = 100.

Manufacturing index of industrial production, 1967 = 100.

Total capital consumption allowances with capital consumption adjustments, billions of current dollars.

Corporate capital consumption allowances with capital consumption adjustments, billions of current dollars.

Corporate capital consumption adjustment, billions of current dollars.

Imports of goods and services, billions of current dollars.

Inclusive monetary base, billions of current dollars, S.A., average for last month of quarter.
Reserve adjustment magnitude, as calculated and applied to the monetary base by the Federal Reserve Bank of St. Louis, billions of current dollars N.S.A., average for last month of quarter.

M1 plus total savings at all depository institutions (billions of $'s; S.A. average for last month of quarter), where M1 equals currency plus demand deposits at commercial banks plus other checkable deposits at all depository institutions including Now accounts, ATS, credit union share drafts and demand deposits at mutual savings banks.

M2 plus short term treasury securities (billions of $'s; S.A. average for last month of quarter), where M2 equals M1 plus savings and small denomination time deposits at all depository institutions, overnight RP's at commercial banks, overnight Eurodollars held by U.S. residents, and money market mutual fund shares. Short term treasury securities are defined as U.S. Treasury Bills and coupons with remaining maturity of less than 18 months held by the nonbank public less such securities held by money market mutual funds.

Imports of goods and services, billions of 1972 dollars.

Federal government budget surplus (National Income and Product Accounts Basis), billions of current dollars.

State and local government budget surplus (National Income and Product Accounts Basis), billions of current dollars.

Net interest, billions of current dollars.

CPI-W: new cars, 1967 = 100, S.A.

Personal consumption expenditures implicit deflator, 1972 = 100.

Personal consumption expenditures implicit deflator, motor vehicles and parts; 1972 = 100.

Personal consumption expenditures implicit deflator, furniture and household equipment; 1972 = 100.

Personal consumption expenditures implicit deflator, durables excluding motor vehicles and parts and furniture and household equipment; 1972 = 100.

Personal consumption expenditures implicit deflator, non-durable goods; 1972 = 100.

CPI-U: all items, 1967 = 100, N.S.A.

Producer price index for crude materials less agricultural products; 1967 = 100, S.A.
*PCS*  
Personal consumption expenditures implicit deflator, services; 1972 = 100.

PFP  
Gross farm product implicit deflator, 1972 = 100.

*PG*  
Government purchases of goods and services implicit deflator, 1972 = 100.

PGAS  
CPI-W: Motor fuel, motor oil, coolant, and other products; 1967 = 100.

*PGNP*  
Gross national product implicit deflator, 1972 = 100.

*PIBF*  
Business fixed investment implicit deflator, 1972 = 100.

PIINV  
Inventory investment implicit deflator, calculated as 100 times the ratio of current dollar to constant dollar inventory investment; 1972 = 100.

*PINC*  
Implicit price deflator business fixed, investment nonresidential structures; 1972 = 100.

*PIPD*  
Implicit price deflator nonresidential fixed investment, producers' durable equipment; 1972 = 100.

*PIPDAG*  
Implicit price deflator, nonresidential fixed investment, producers' durable equipment in agriculture; 1972 = 100.

*PIPDO*  
Implicit price deflator, nonresidential fixed investment, producers' durable equipment except in agriculture and production; 1972 = 100.

*PIPDQ*  
Implicit price deflator, nonresidential fixed investment, producers' durable equipment in production; 1972 = 100.

*PIRC*  
Residential construction expenditures implicit deflator, 1972 = 100.

PM  
Import implicit deflator, 1972 = 100.

PNGAS  
Producer price index for gas fuels; 1967=100 N.S.A.

*PPNF*  
Private nonfarm GNP implicit deflator, 1972 = 100.

*PX*  
Export implicit deflator, 1972 = 100.

*Q*  
Mortgage factor of IRC72 equation.

*QMHT*  
Trend growth rate of productivity.

*QMH77*  
Output per hour, private nonfarm sector; index 1977 = 100.

*RAAA*  
Corporate Aaa bond interest rate, percent.
*RBASE Growth rate of the monetary base, percent annual rate.
*RCD 90 day certificate of deposit rate, percent.
*RCP Interest rate on 4-6 month prime commercial paper, percent.
*RCPCD RCP from 1954.1 to 1962.4 and RCD from 1963.1 to present, percent.
*REDIS Discount rate, Federal Reserve Bank of New York; percent.
*REM Percentage employment rate, males 20 years and over.
*RG5 Yield on U.S. government taxable securities, 5 year issues, percent.
*RHSAVE Personal savings rate, percent.
*RM2PLUS Growth rate of M2PLUS, percent annual rate.
*RPPERM "Permanent" rate of inflation, quarterly rate percent.
*RRDEM Reserve requirement on demand deposits, percent.
*RTB 90 Day Treasure bill rate, daily average of market yield; percent.
*RUG Global unemployment rate, percent.
*RUM Unemployment rate, males 20 years and over; percent.
*SDR Allowance for Special Drawing Rights, billions of current dollars, N.S.A., last day of quarter.
*SERVE72 Services component of real GNP, billions of 1972 dollars.
*SINV72 Four times the stock of business inventories, billions of 1972 dollars, end of quarter.
*SLCSF Subsidies less current surplus of government enterprise, federal; billions of current dollars.
*SLCSSL Subsidies less current surplus of government enterprise, state and local, billions of current dollars.
*TC Total corporate profits tax accruals, billions of current dollars.
*TCF Corporate profits tax accruals, federal; billions of current dollars.
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCFR</td>
<td>Federal statutory corporate tax rate.</td>
</tr>
<tr>
<td>TCO</td>
<td>Treasury currency outstanding, billions of current dollars, N.S.A., last day of quarter.</td>
</tr>
<tr>
<td>*TCSL</td>
<td>Corporate profits tax accruals, state and local; billions of current dollars.</td>
</tr>
<tr>
<td>TDEPRAG</td>
<td>Tax depreciation rate for agricultural equipment.</td>
</tr>
<tr>
<td>TDEPRNC</td>
<td>Tax depreciation rate for non-residential structures.</td>
</tr>
<tr>
<td>TDEPRO</td>
<td>Tax depreciation rate for other equipment.</td>
</tr>
<tr>
<td>TDEPRQ</td>
<td>Tax depreciation rate for production equipment.</td>
</tr>
<tr>
<td>*TIB</td>
<td>Indirect business tax and nontax accruals, billions of current dollars.</td>
</tr>
<tr>
<td>*TIBF</td>
<td>Indirect business tax and nontax accruals, federal, billions of current dollars.</td>
</tr>
<tr>
<td>*TIBSL</td>
<td>Indirect business tax and nontax accruals, state and local, billions of current dollars.</td>
</tr>
<tr>
<td>TIME</td>
<td>Time trend equal to 1 in 1954.1 and increasing by 1 per quarter.</td>
</tr>
<tr>
<td>TITCR</td>
<td>Tax rate for investment tax credit.</td>
</tr>
<tr>
<td>*TP</td>
<td>Total personal tax and nontax payments, billions of current dollars.</td>
</tr>
<tr>
<td>TPNS</td>
<td>Nonwithheld component of 1968-69 personal income tax surcharge, values defined in the Appendix.</td>
</tr>
<tr>
<td>*TPSL</td>
<td>Personal tax and nontax payments, state and local; billions of current dollars.</td>
</tr>
<tr>
<td>*TSI</td>
<td>Total contributions for social insurance, billions of current dollars.</td>
</tr>
<tr>
<td>*TSIF</td>
<td>Contributions for social insurance, federal; billions of current dollars.</td>
</tr>
<tr>
<td>TSIFR</td>
<td>Total social security tax rate.</td>
</tr>
<tr>
<td>*TSIP</td>
<td>Personal contributions for social insurance, billions of current dollars.</td>
</tr>
<tr>
<td>TSISL</td>
<td>Contributions for social insurance, state and local; billions of current dollars.</td>
</tr>
</tbody>
</table>
A regression residual, used in equations which were fitted with correction for first order autocorrelation of residuals.

*UCKNC  User cost of capital investment in non-residential structures.

*UCKPDQ  User cost of capital investment in nonresidential producers' durable equipment, production.

*ULC77  Unit labor cost, private nonfarm sector; 1977 = 100.

WALD  Wage accruals less disbursements, total; billions of current dollars.

WCEIL  Wage ceiling for social security taxes, thousands of current dollars.

WUSMIN  Minimum hourly wage, current dollars.

X72  Exports of goods and services, billions of 1972 dollars.

*YCBT  Corporate profits before taxes; billions of current dollars.

*YCP  Corporate profits with inventory valuation adjustment and capital consumption adjustment; billions of current dollars.

*YD  Disposable personal income, billions of current dollars.

*YD72  Disposable personal income, billions of 1972 dollars.

*YFP  Farm proprietors' income with inventory valuation and capital consumption adjustments, billions of current dollars.

YGWS  Government wage and salary disbursements, including military; billions of current dollars.

*YNFP  Nonfarm proprietors' income with inventory valuation and capital consumption adjustments, billions of current dollars.

*YOL  Other labor income, billions of current dollars.

*YP  Personal income, billions of current dollars.

*YPDIV  Corporate dividend payments to persons, billions of current dollars.

*YPERM72  Permanent disposable income, billions of 1972 dollars.

*YPINT  Personal interest income, billions of current dollars.

YPRENT  Rental income of persons with capital consumption adjustment, billions of current dollars.

*YPWS  Private wages and salaries, billions of current dollars.
Transitory income, billions of 1972 dollars.

Total unemployment benefits paid, billions of current dollars.
APPENDIX

This appendix notes only non-zero values of dummy variables. All unspecified values may be assumed to be zero.

<table>
<thead>
<tr>
<th>DAPACTM</th>
<th>DASTRIKE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.03 1963.1-1963.2</td>
<td>-2.0 1964.4</td>
</tr>
<tr>
<td>0.10 1963.3-1964.3</td>
<td>1.2 1965.1</td>
</tr>
<tr>
<td>0.26 1964.4-1965.3</td>
<td>0.8 1965.2</td>
</tr>
<tr>
<td>0.65 1965.4</td>
<td>-1.0 1967.4</td>
</tr>
<tr>
<td>1.00 1966.1-1966.3</td>
<td>0.75 1968.1</td>
</tr>
<tr>
<td>1.82 1966.4-1967.3</td>
<td>0.25 1968.2</td>
</tr>
<tr>
<td>2.65 1967.4-1968.3</td>
<td>-3.6 1970.4</td>
</tr>
<tr>
<td>3.65 1968.4-1969.3</td>
<td>2.4 1971.1</td>
</tr>
<tr>
<td>4.00 1969.4-1975.2</td>
<td>1.2 1971.2</td>
</tr>
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