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Control and Administration of the Investment

Hanger and Consuming Expansion

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1. Introduction

Since the Third Plenary Session of the Eleventh Central Committee of the CCP, there have been great achievements in the development of economy in our country and the living standard of the people has been raised year by year. However, at this moment of great boom, there appeared two profound contradictions in macroeconomy: One is the investment hanger and the other is the consuming expansion. This is a universal persistent ailment in developing countries.

The investment hanger, i.e. expansion of investment infixed asset is an outstanding contradiction in the development of national economy. The speed of growth in investment infixed asset greatly exceeds the speed of growth in production and financial revenue and the investment scale exceeds the possible amounts that financial and material resources can provide. The investment infixed asset in 1984 reached 116,000 million yuan, which is 20,800 million yuan more than that of the year before. The growth rate is 21.85%, which greatly exceeds the rate of financial revenue, 14.5%, and the rate of social total value of output, 12.84%, of the corresponding period. This is an important factor resulting in excessive distribution of national income, shortage of supplying goods and materials, a sharp increase of consuming fund and going up prices.

The other outstanding contradiction in the development of national economy is consuming expansion, that is, a sharp increase of consuming fund. The speed of growth in consuming fund and the average consuming standard of the residents exceeds that of growth in national income. In the years of 1980-1984, the average speed of growth in national income is 8.14%, but the average speed of growth in consuming fund is 11.4%, and the average speed of growth in consuming standard of per capita is 10.22%. The speed of growth in total wages and various income of staff and workers greatly exceeds the speed of growth in total value of industrial output. In the years of 1980-1984, the average speed of growth in total value of industrial output is 9%, but the average speed of growth in total wages of staff and workers is 12.9%, the average speed of growth in bonus and payment for overfulfilled work-pieces is 30.74%. The speed of growth in labour production rate for all

the staff and workers and that in wages and bonus are out of proportion, because former part is merely at a rate of 3.74%. The speed of growth of the peasants' net income of per capita exceeds that in total value of agriculture output by a big margin. In the years of 1980-1984, the average speed of growth in total value of agriculture output is 9.1%, while the speed of growth in peasants net income of per capita is 17.34%.

The investment hanger and the consuming expansion lead to serious consequences of inflation and unbalance in national economy. The total demands of the people in the society become more than the total supply by the society. In 1984 the total demands of the people who can afford to pay is bigger than the total supply of finished products sold by 153,500 million yuan. Because of a sharp increase consuming fund of surplus purchasing power is expended greatly and in 1985 it reached 260,000 million yuan. According to the calculation of input-output coefficient 2.03 from consuming structure in 1983, this surplus purchasing power corresponds to 500,000 million yuan's worth of total value of industrial output.

Excessive financial distribution. In the years of 1979-1984 the amount of financial deficit reached 44,640 million yuan. In order to make up for the deficits, the state government borrowed a lot of debts, up to the end of 1984, they, borrowed from the inside and the outside, reached 72,650 million yuan, which is equal to 50% of the financial revenue that year.

Out of control of credit and currency issue. Accumulation and consuming fund exceed the national income, which causes excessive distribution. Apart from this, the financial overdrawing and borrowing from banks, and the reckless issuing of loans by the bank forced the state to issue more currency. In the years of 1979-1984 the issuing currency reached as high as 57,900 million yuan. Resulting from the excessive issuing of currency, a sharp increase in circulation of currency happened. It greatly exceeds the market demand.

The going up prices. Owing to the excessive issuing currency, there is sharp increase of currency circulation in the markets. Inevitably, it cause inflation, going up prices, and currency devaluation. Comparing 1984 with 1978, we can find that prices of farm products and sideline products have gone up by 53%, index number of cost of living of staff and workers has gone up by 19.9%, and index number of retail price by 17.7%. The going-up of retail prices in the markets means that

the value of money for purchasing has fallen down, and the currency devalued. According to calculations, in 1984 currency value of 100 yuan for purchasing equals only to that of 69.8 yuan in 1952.

2. Model

After my investigation of the great real problem in the sociea- list construction. I have made system dynamic model, based on the vi- ewpoint of systematic perspective, a study of the intricate relation- ship socialist production, exchanging, consumption, circulation, distri- bution and so on.

1) Causal-loops diagram and the major variable.

Causal-loops diagram includes six feedback loops(see figure 1), of which four are positive feedback loops and two is a negative feed- back loop.

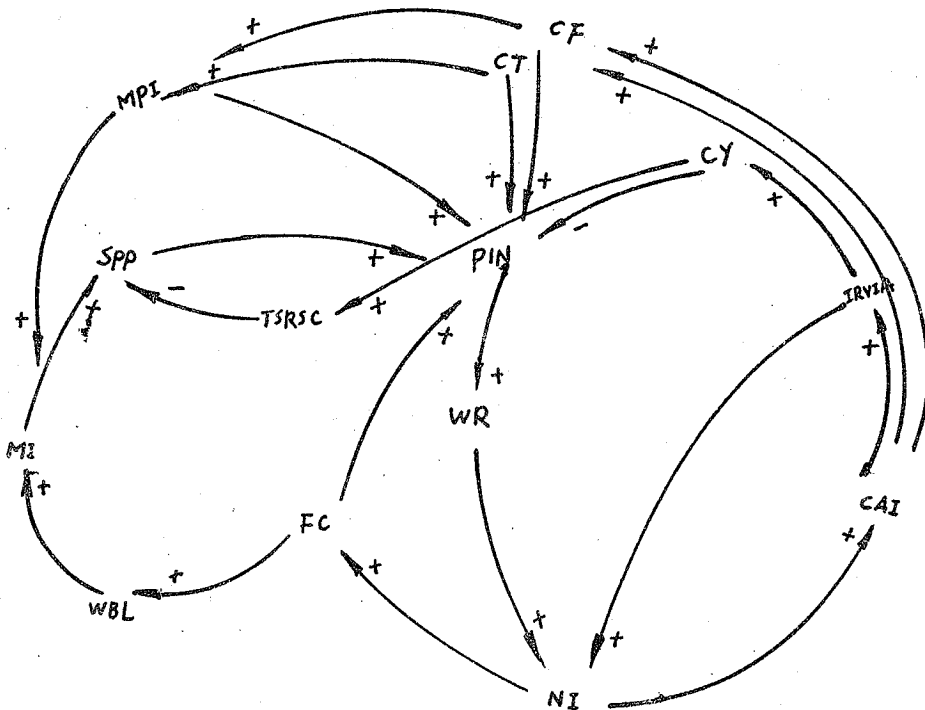
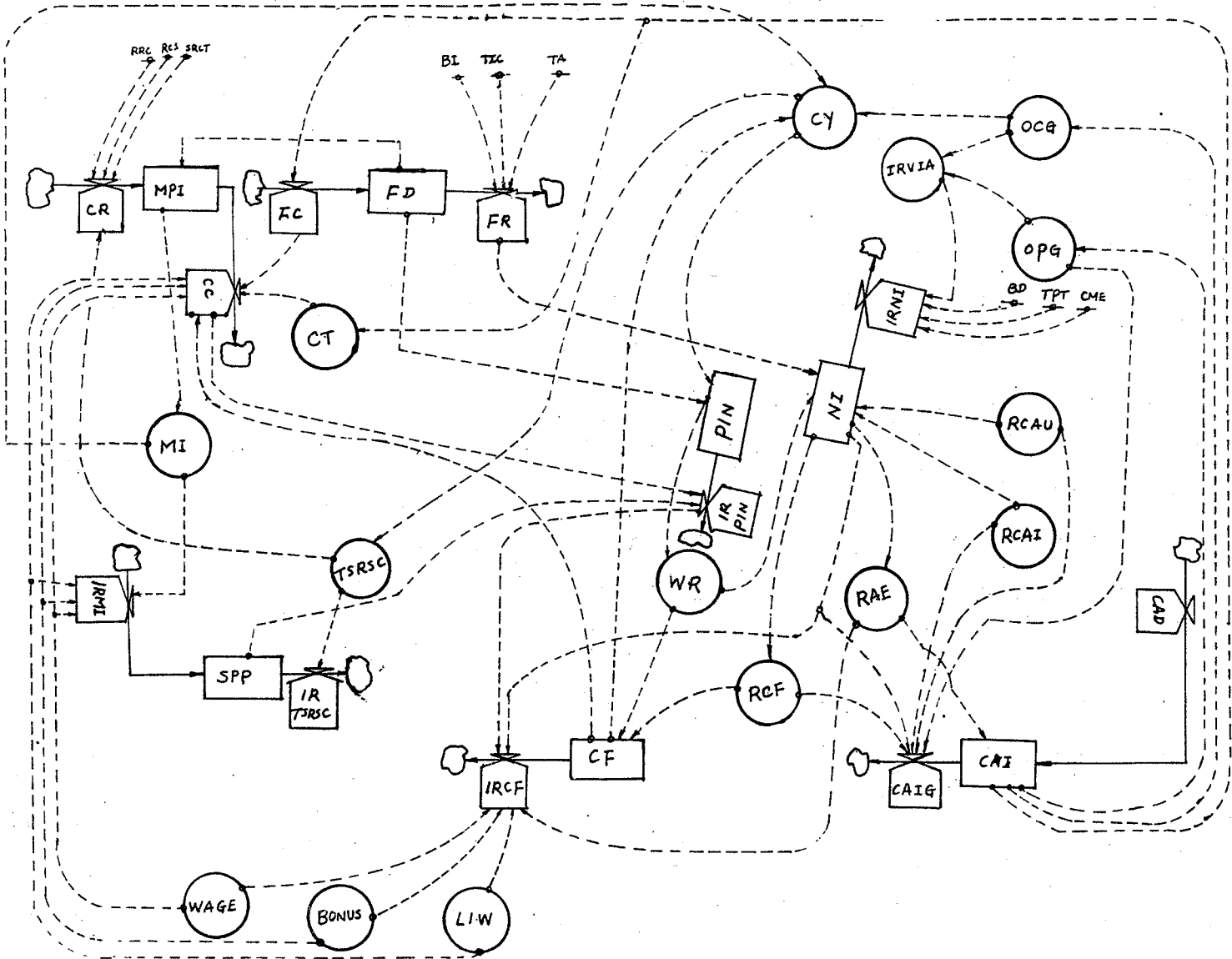


FIGURE 1



- (1) Negative feedback loop: $cai \rightarrow irvia \rightarrow cy \rightarrow tsrsc \rightarrow spp \rightarrow pin \rightarrow wr \rightarrow ni \rightarrow cai$.
- (2) Negative feedback loop: $ni \rightarrow cai \rightarrow irvia \rightarrow cy \rightarrow pin \rightarrow wr \rightarrow ni$.
- (3) Postive feedback loop: $fc \rightarrow wbl \rightarrow mi \rightarrow spp \rightarrow pin \rightarrow wr \rightarrow ni \rightarrow fc$.
- (4) Postive feedback loop: $fc \rightarrow pin \rightarrow wr \rightarrow ni \rightarrow fc$.
- (5) Postive feedback loop: $ni \rightarrow cai \rightarrow ecms \rightarrow mpi \rightarrow pin \rightarrow wr \rightarrow ni$.
- (6) Postive feedback loop: $ni \rightarrow cf \rightarrow mpi \rightarrow pin \rightarrow wr \rightarrow ni$.

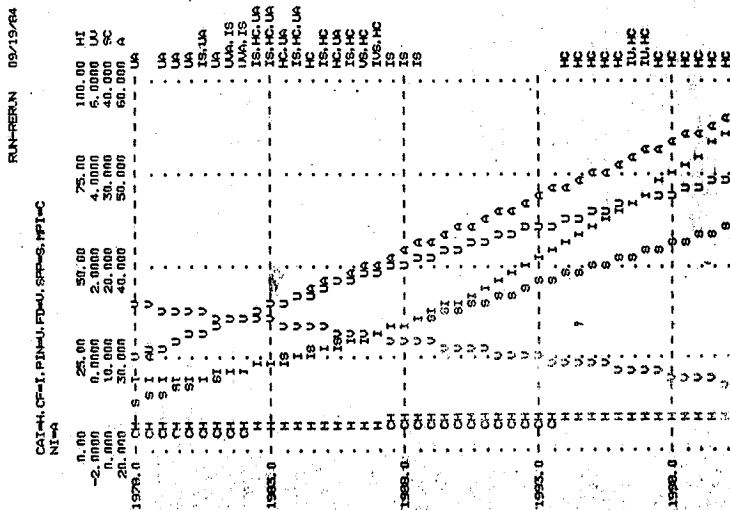
2) Flow diagram and equation of dynamic system.

For flow diagram of the model see figure 2. The equations within the are:

Level equation	7
Intial value equation	16
Rate equation	10
Auxiliary equation	17
Tabh1 function	16
constant equation	16

3) Model simulation

For the result of model simulation see figure 3.



3. Concluions

Through system dynamic model for simulation, I have got a number of important conclusions to control and deal with the investment hanger and the consuming expansion as listed below:

1)Firmly control the amount of investment infixed asset. In order to control and put right the investment hanger and consuming expansion, it is imperative to reform the system of investment,turn grataitous investment infixed asset into repaying investment, carry out strict management of each tiem as the World Bank does and make a concrete atudy and demonstration of technology and economic reasibility item by item. Once an item has been decided to be carried out, submit a tender with the requirement that the project should be completed on time and the quility ensured. In this way,the construction cycle can beshortened, the item can be put into production quickly and economic benefits can be raised.

As shown in figure 4,after the control of the speed of growth in investment inixed asset, the financial can be wiped out rapidly, and national income develops steadily.

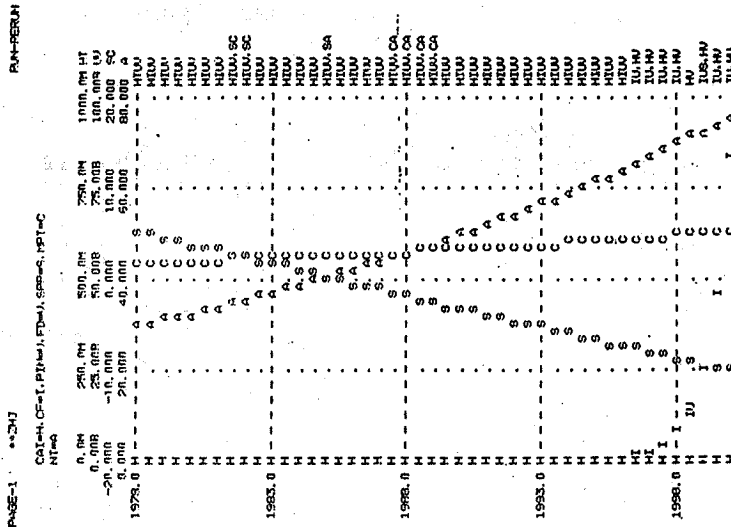


FIGURE 4

2) Strictly control the speed of growth in consuming fund. In this way the speed of growth in total wages, bonus, labour insurance and welfare will be corresponding to the speed of growth in national income, industry and agriculture.

As shown in figure 5, after the control of the speed of growth in consuming fund, surplus purchasing power goes down rapidly; financial deficit falls down; price rises slowly; and national income develops steadily.

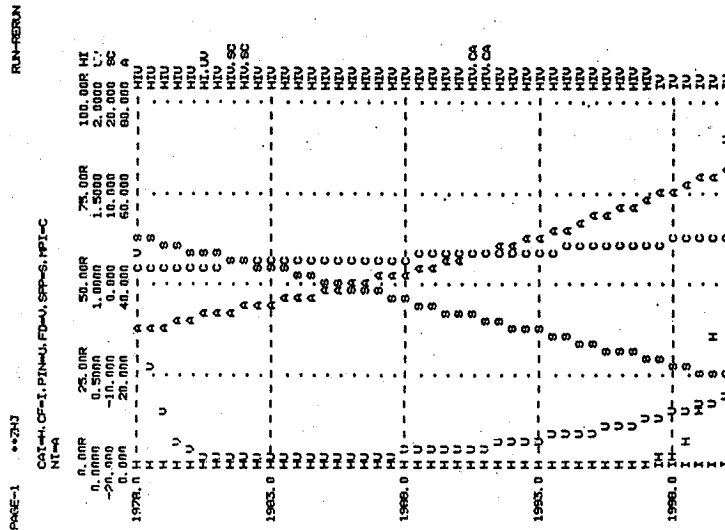


FIGURE 5

3) Control the speed of development of national economy. In this way it can develop with continuation, stability and coordination. Otherwise, if we to seek for a high speed unilaterally it will certainly lead to the expanding of amount of investment infixed asset. This will unavoidably aggravate currency by way of finance and credit. The total demand in the society will be bigger than the total supply by the society, and it will certainly lead to inflation and price rising.

As shown in figure 6, when the speed of growth in national income is put under 6% both of the financial deficit and surplus purchasing power go down and the price rises up slowly.

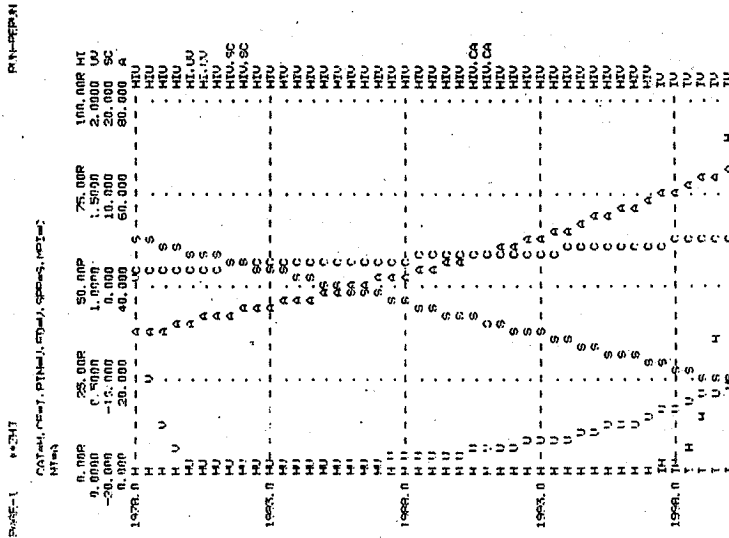


FIGURE 7

5) Strictly control putting money into circulation in order to keep a balance of credit, firmly extinguish financial deficits and control the amount of money in circulation so that the purchasing power can be in balance with commodity supply. The smaller surplus purchasing power is, the easier it will be to control inflation.

As shown in figure 8, after the control of amount of money put into circulation, the financial deficits goes down, the surplus purchasing power is reduced and price rises up slowly, but the national income develops steadily.

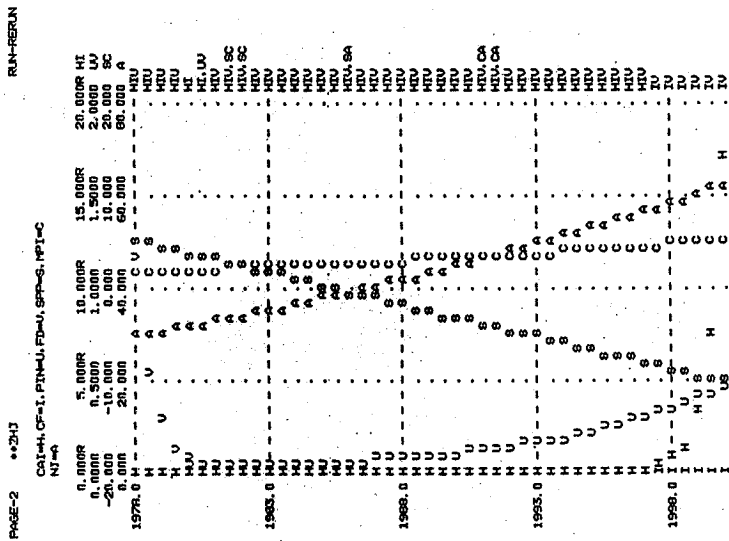


FIGURE 8

6) Control prices. So long as there is a control of the scale of investment infixed asset and consuming fund, there will be a balance between the purchasing power and commodity supply, between the income and the expenditure of finance and credit. If the money put into circulation is in stability prices will be stable and national economy will surely develop in a healthy way.

References:

1. Forrester, Jay w . 1968 " Principles of system " .
2. Qifan Wang, March, 1984 "Principles of Dynamic Systems " .

SIGNS FOR DEFINITION

CAI	INVESTMENT INFIXED ASSET
CAIG	THE FORMATION OF INVESTMENT ASSET
INRCI	INDEX NUMBER FROM THE RESULT OF INVESTMENT INFIXED ASSET
CAD	DEPRECIATION OF INFIXED ASSET
DRCA	DEPRECIATION RATE OF INFIXED ASSET
CF	CONSUMING FUND
IRCF	INCREASING RATE OF CONSUMING FUND
IRW	INCREASING RATE OF WAGES
IRLIW	INCREASING RATE OF LABOUR INSURANCE AND WELFARE
IRB	INCREASING RATE OF BONUS
PIN	INDEX NUMBER OF COST OF LIVING OF STAFF AND WORKERS
IRPIN	INCREASING RATE OF INDEX NUMBER OF PRICE
IRCAI	INCREASING RATE OF INVESTMENT INFIXED ASSET
IRSPP	INCREASING RATE OF SURPLUS PURCHASING POWER
SPP	SURPLUS PURCHASING POWER
IRFC	INCREASING RATE OF FINANCIAL DEFICITS
EDMS	EQUIPMENT CREDIT FOR A SHORT OR MEDIUM PERIOD
FD	FINANCIAL DEFICITS
FC	FINANCIAL EXPENDITURES
FR	FINANCIAL INCOME
TSRSC	TOTAL AMOUNT OF RETAIL SALES OF COMMODITY
MI	MONETARY INCOME
IRMI	INCREASING RATE OF MONETARY INCOME
MPI	MONEY PUT INTO CIRCULATION
NI	NATIONAL INCOME
CC	CASH CHARGES
RCS	REVENUE OF COMMODITY SALES
RRC	REVENUE OF RURAL CREDIT
SRCT	REVENUE FROM BANK SAVING CITIES AND TOWNS
CR	REVENUE OF CASHES
CWP	EXPENDITURES ON WAGES AND INDIVIDUALS
CPFSP	EXPENDITURE ON FARM*SIDE PRODUCTS
CRC	EXPENDITURE ON RURAL CREDIT
TSA	TOTAL VALUE OF AGRICULTURE OUTPUT
SCCT	EXPENDITURE FOR BANKINGS IN CITIES AND TOWNS
CT	CREDIT

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RCAI	RATE OF OUTPUT VALUE OF INVESTMENT INFIXED ASSET
RCAU	RATE IN INVESTMENT INFIXED ASSET COMPLETED AND MADE AVAIBLE TO THE USERS
OPG	OUTPUT OF PRODUCER GOODS
OCG	OUTPUT OF CONSUMER GOODS
WR	WAGE REQUIREMENT
IRVIA	TOTAL VALUE OF INDUSTRY AND AGRICULTURE OUTPUT
CY	COMMODITY
AE	ACCUMULATE
WBL	WAGES, BONUS, LABOUR INSURANCE AND WELFARE
BI	BUSINESS INCOME
TIC	TAX OF INDUSTRY AND COMMERCE
TA	TAX OF AGRICULTURE
BD	BUILD
TPT	TRANSPORT, POST AND TELECOMMUNICATIONS
CME	COMMERCE

PROGRAM

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L CAI. K=CAI. J+(DT)*(CAIG. JK-CAD. JK)
N CAI=CAII
C CAII=6.6872
R CAIG. KL=CAI. K*INRCI. K
A INRCI. K=IRNI*IRFC
C IRFC=1.281
R CAD. KL=CAI. K*DRCA
N CAD=CADI
C CADI=0.2675
C DRCA=0.04
L CF. K=CF. J+(DT)*(INCF. JK)
N CF=CFI
C CFI=18.88
R INCF. KL=(PTN. K)*(LIW. K)*(BONUS. K)*WAGES. K
A WAGES. K=TABHL(WAGEST, NI. K, 0, 7, 1)
T WAGEST=0/0.191/0.193/0.209/0.21/0.226/0.195/0.205
A LIW. K=TABHL(LIWT, NI. K, 0, 6, 1)
T LIWT=2.63/0.69/0.53/0.50/0.39/0.40/0.30
A BONUS. K=TABHL(BONUST, NI. K, 0, 5, 1)
T BONUST=0.4446/0.3643/0.3186/0.2949/0.2737/0.2661
L PIN. K=PIN. J+(DT)*(IRPIN. JK)
N PIN=PINI
C PINI=0.01447
R IRPIN. KL=PIN. K*IRCAI*IRSPP. K*IRFD. K*IRMPI. K
N IRCAI=TABHL(IRCAIT, IRVIA, 0, 6, 1)
T IRCAIT=0.1087/0.0879/0.0992/0.0855/0.111/0.102/0.111
N IRVIA=56.34
A IRSPP. K=TABHL(IRSPPT, IRMI, 0, 6, 1)
T IRSPPT=0.931/1.155/1.515/2.896/2.25/1.808/1.463
C IRMPI=1.10
A IRFD. K=TABHL(IRFDT, FD. K, 0, 7, 1)
T IRFDT=1.1/1.65/2.2/2.75/3.3/3.85/4.4/4.95
N IRMI=1.109
L FD. K=FD. J+(DT)*(FC. JK-FR. JK)
N FD=FDI
C FDI=1.15
R FC. KL=FD. K*IRCAI
R FR. KL=FD. K*ITSRSC. K
C ITSRSC=1.138
L SPP. K=SPP. J+(DT)*(MI. JK-TSRSC. JK)
N SPP=SPPI
C SPPI=5.146
R MI. KL=16.029*LIW. K*BONUS. K*WAGES. K
A TSRSC. K=TABHL(TSRSCT, CF. K, 0, 6, 1)
T TSRSCT=0.925/0.929/0.964/0.937/0.927/0.93/0.964
L MPI. K=MPI. J+(DT)*(CC. JK-CR. JK)
N MPI=MPII
C MPII=1.7924
R CC. KL=MPI. K*RC9. K*SRCT. K*RRC. K
A RC9. K=TABHL(RC9T, CF. K, 0, 4, 1)
T RC9T=0.505/0.508/0.539/0.567/0.579
A SRCT. K=TABHL(SRCTT, MI, 0, 4, 1)
T SRCTT=0.089/0.115/0.124/0.137/0.164

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N MI=16.029
A RRC.K=TABHL(RRCT,AL,0,4,1)
T RRCT=0.615/0.531/0.625/0.776/1.062
N AL=ALI
C ALI=102
R CR.KL=MPI.K*CWP.K*CPFSP.K*CRC.K
A CWP.K=TABHL(CWPT,CF,K,0,4,1)
T CWPT=0.327/0.332/0.354/0.346/0.342
A CPFSP.K=TABHL(CPFSP,TSA,0,4,1)
T CPFSP=0.088/0.113/0.166/0.160/0.171
N TSA=TSAT
C TSAT=14.588
A CRC.K=TABHL(CRCT,CRED,0,4,1)
T CRCT=0.157/0.164/0.172/0.176/0.191
N CRED=CREDI
C CREDI=15.36
L NI.K=NI.J+(DT)*(IRNI.JK)
N NI=NII
C NII=29.75
R IRNI.KL=NI.K*RCAI*IRVIA
A RCAI=RCAU*NICA
A RCAU=TABHL(RCAUT,CAI,K,0,6,1)
T RCAUT=0.111/0.12/0.106/0.129/0.088/0.08/0.06
A NICA=TABHL(NICAT,CAI,K,0,5,1)
T NICAT=0.525/0.562/0.572/0.592/0.628/0.63
A IRVIA=TABHL(IRVIAT,IRCAI,0,6,1)
T IRVIAT=0.92/1.138/1.008/1.169/0.9/0.978/0.9
C LENGTH=2000
N PLTPER=0.5
N TIME=1978
SPEC DT=0.5
PLOT CAI=H,CF=I/PIN=U,FD=V/SPP=S,MPI=C/NI=A(0,2)
OPT PR,SC
RUN

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