EViews软件入门培训

及宏观经济统计分析应用示例

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2008 年 3 月 19 日

（于 国家发改委）

目　录

一、EViews基础

1、简介

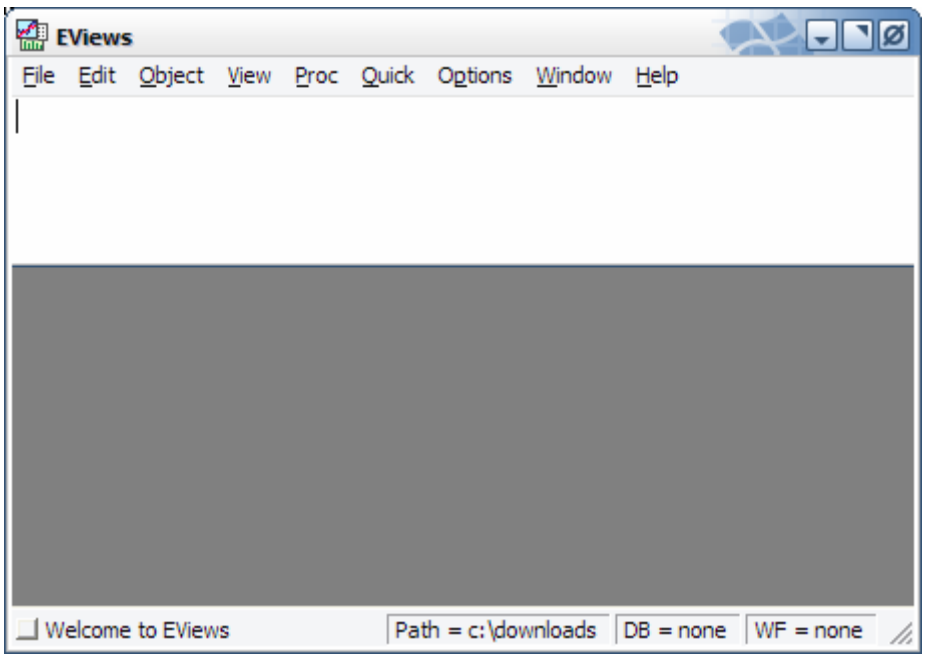
EViews 是在大型计算机的 TSP (Time Series Processor) 软件包基础上发展起来的新版本，是一组处理时间序列数据的有效工具，1981 年 Micro TSP 面世，1994 年 QMS (Quantitative Micro Software) 公司在 Micro TSP 基础上直接开发成功 EViews 并投入使用。虽然 EViews 是由经济学家开发的并大多在经济领域应用，但它的适用范围不应只局限于经济领域。

EViews 提供便利的从键盘，磁盘文件得到数据的方法，并能从已有的数据得到新的数据，及显示和打印数据，做数据序列的统计分析和相关分析。

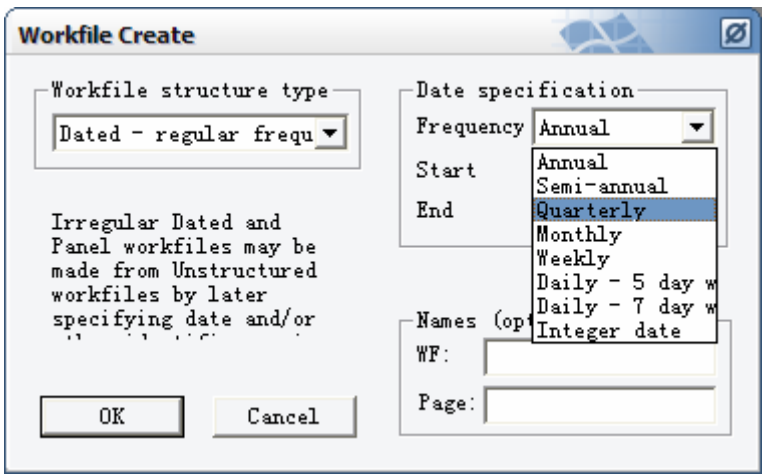
EViews 得益于 WINDOWS 的可视的特点，能通过标准的 WINDOWS 菜单和对话框，用鼠标选择操作，并且能通过标准的 WINDOWS 技术来使用显示于窗口中的结果。

此外，还可以利用 EViews 的强大的命令功能和它的大量的程序处理语言，进入命令窗口修改命令，并可以将计算工作的一系列操作建立成相应的计算程序，并存储，从而可以通过直接运行程序来完成复杂的计算工作。

2、窗口


EViews
File Edit Object View Proc Quick Options Window Help
Welcome to EViews
Path = c:\downloads
DB = none
WF = none

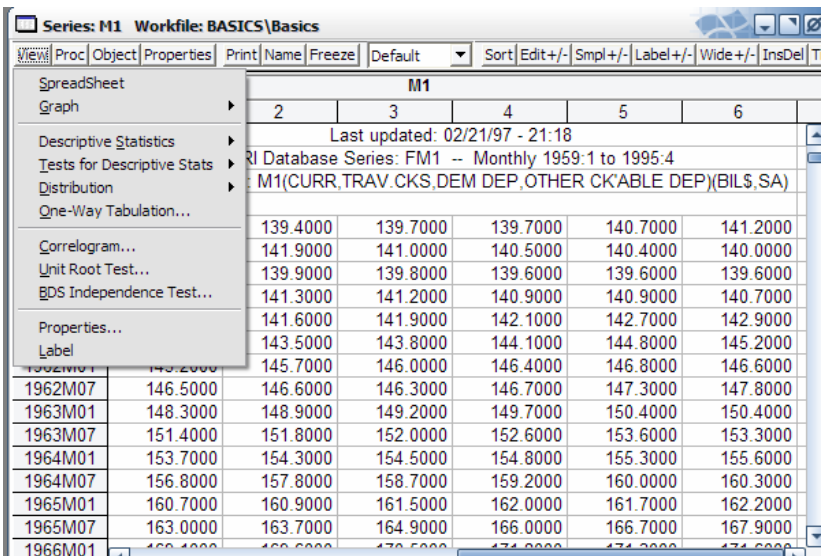
3、工作文件


Workfile Create
Workfile structure type
Dated - regular frequ
Irregular Dated and
Panel workfiles may be
made from Unstructured
workfiles by later
specifying date and/or
OK
Cancel
Date specification
Frequency
Annual
Start
End
Annual
Semi-annual
Quarterly
Monthly
Weekly
Daily - 5 day w
Daily - 7 day w
Integer date
Names (opt
WF:
Page:

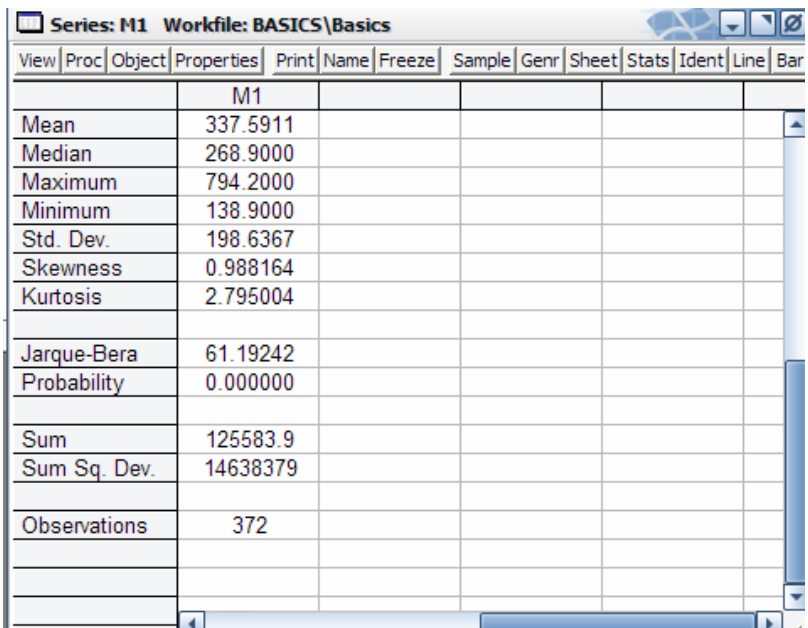
4、对象


New Object
Type of object
Series
Equation
Graph
Group
LogL
Matrix-Vector-Coe:
Model
Pool
Sample
Series
Series Link
Series Alpha
SSpace
System
Table
Text
ValMap
VAR
Name for object
Untitled
OK
Cancel

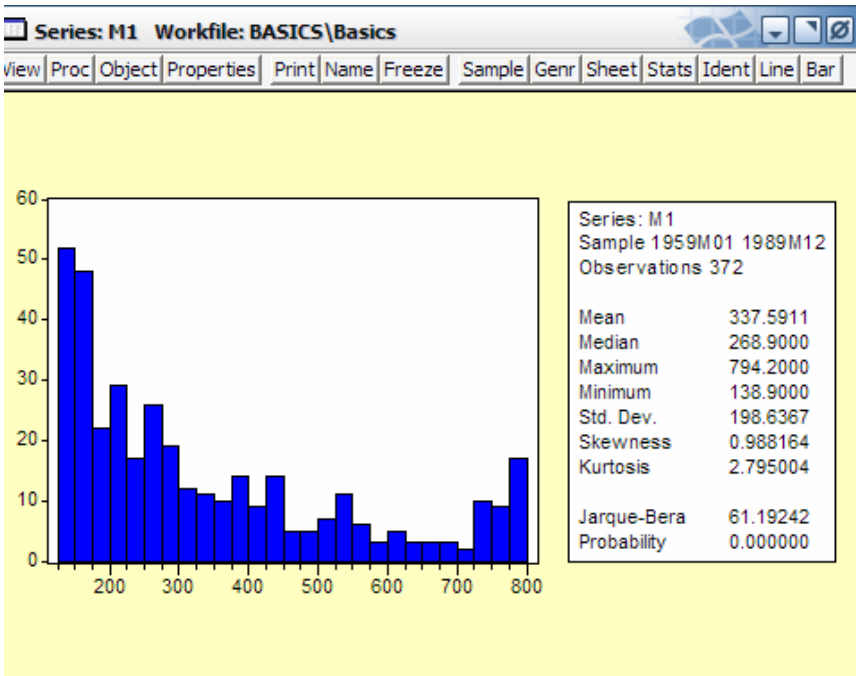
5、视图与过程

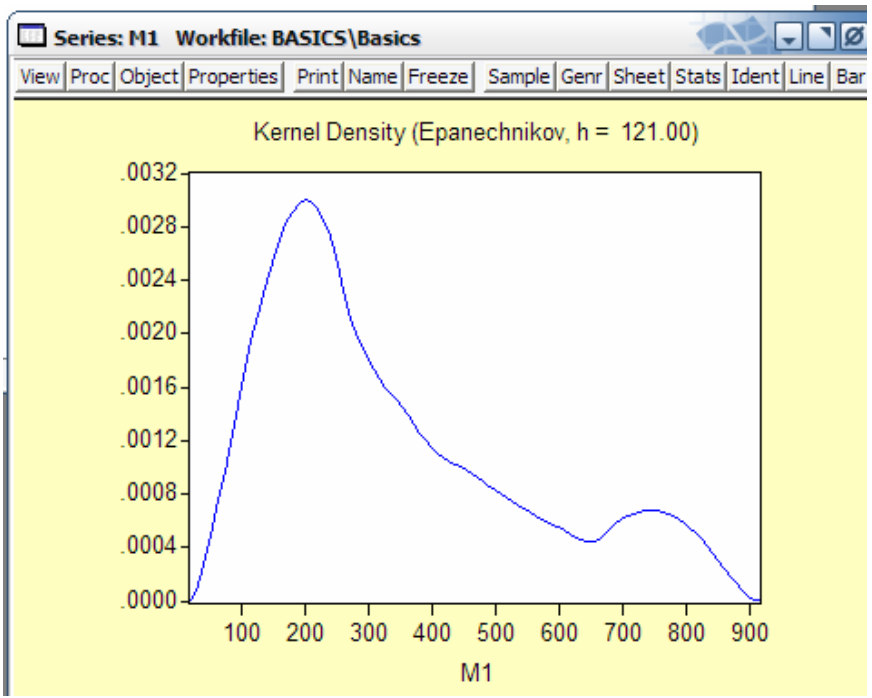

Series: M1 Workfile: BASICS\Basics
View Proc Object Properties Print Name Freeze Default Sort Edit+/- Smpl+/- Label+/- Wide+/- InsDel
SpreadSheet
Graph
Descriptive Statistics
Tests for Descriptive Stats
Distribution
One-Way Tabulation...
Correlogram...
Unit Root Test...
BDS Independence Test...
Properties...
Label
M1
Last updated: 02/21/97 - 21:18
RI Database Series: FM1 -- Monthly 1959:1 to 1995:4
M1(CURR,TRAV.CKS,DEM DEP,OTHER CK'ABLE DEP)(BIL$,SA)

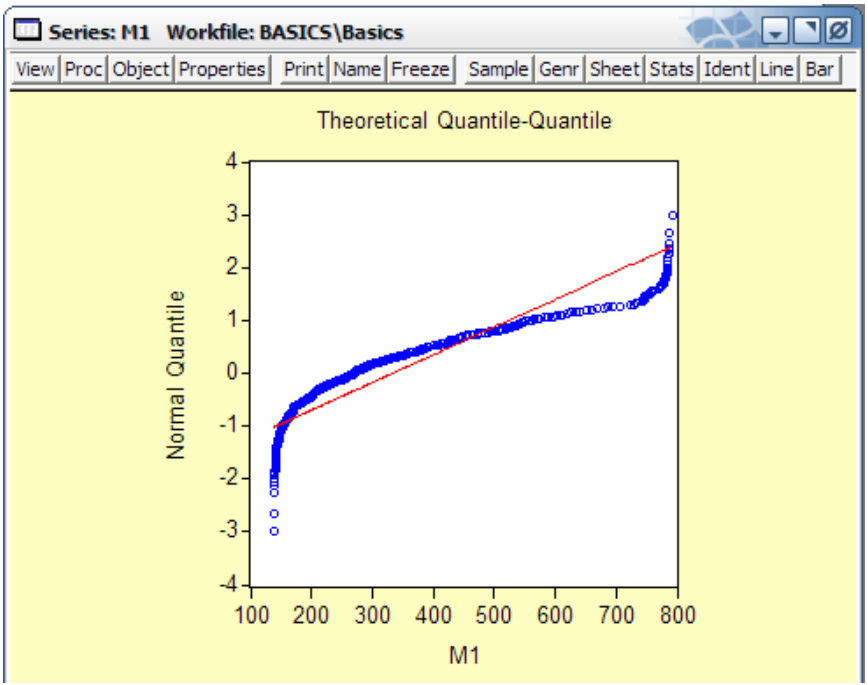
二、描述统计分析与图形



	M1
Mean	337.5911
Median	268.9000
Maximum	794.2000
Minimum	138.9000
Std. Dev.	198.6367
Skewness	0.988164
Kurtosis	2.795004
Jarque-Bera	61.19242
Probability	0.000000
Sum	125583.9
Sum Sq. Dev.	14638379
Observations	372


Series: M1 Workfile: BASICS\Basics
View Proc Object Properties Print Name Freeze Sample Genr Sheet Stats Ident Line Bar
60
50
40
30
20
10
0
200
300
400
500
600
700
800
Series: M1
Sample 1959M01 1989M12
Observations 372
Mean 337.5911
Median 268.9000
Maximum 794.2000
Minimum 138.9000
Std. Dev. 198.6367
Skewness 0.988164
Kurtosis 2.795004
Jarque-Bera 61.19242
Probability 0.000000

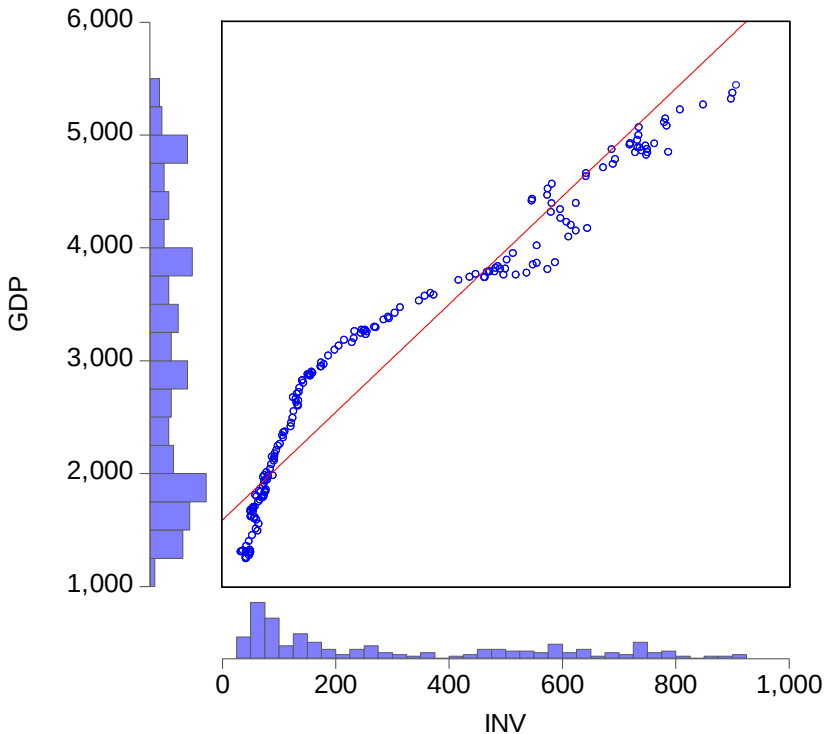

Series: M1 Workfile: BASICS\Basics
View Proc Object Properties Print Name Freeze Sample Genr Sheet Stats Ident Line Bar
Kernel Density (Epanechnikov, h = 121.00)
.0032
.0028
.0024
.0020
.0016
.0012
.0008
.0004
.0000
100 200 300 400 500 600 700 800 900
M1

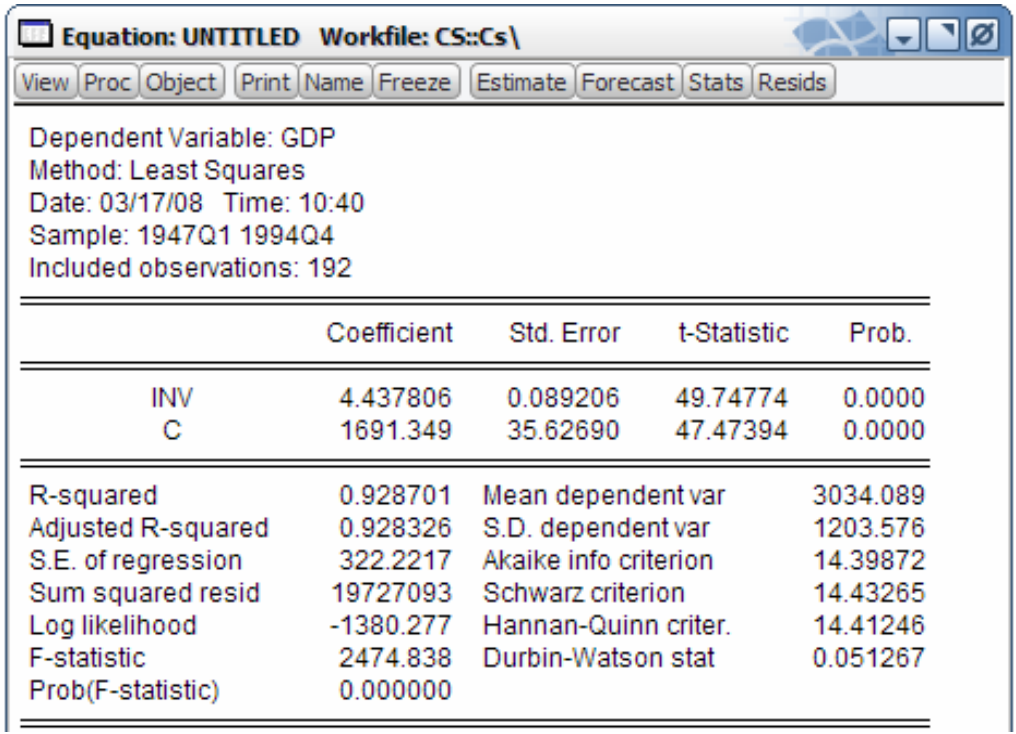

Series: M1 Workfile: BASICS\Basics
View Proc Object Properties Print Name Freeze Sample Genr Sheet Stats Ident Line Bar
Theoretical Quantile-Quantile
Normal Quantile
4
3
2
1
0
-1
-2
-3
-4
100 200 300 400 500 600 700 800
M1

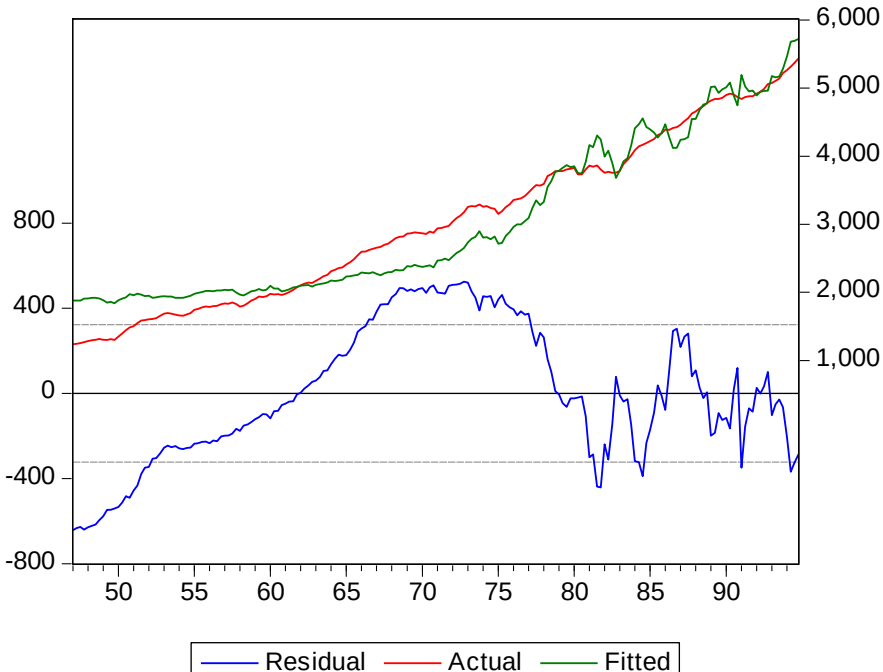
三、线性回归分析

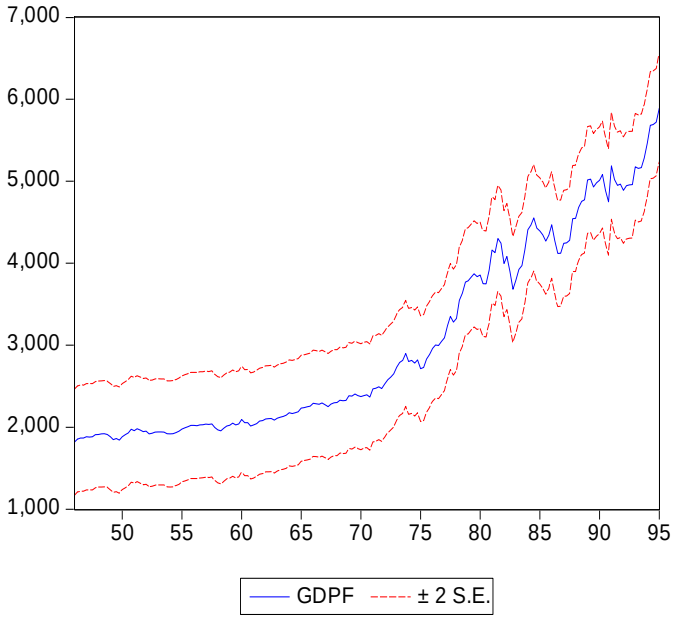
经济计量研究始于经济学中的理论假设，根据经济理论设定变量间的一组关系，如消费理论、生产理论和各种宏观经济理论，对理论设定的关系进行定量刻画，如消费函数中的边际消费倾向、生产函数中的各种弹性等进行实证研究。单方程回归是最丰富多彩和广泛使用的统计技术之一。

实例：总投资与 GDP 的关系


6,000
5,000
4,000
3,000
2,000
1,000
GDP
0
200
400
600
800
1,000
INV


Equation: UNTITLED Workfile: CS::Cs\
View Proc Object Print Name Freeze Estimate Forecast Stats Resids
Dependent Variable: GDP
Method: Least Squares
Date: 03/17/08 Time: 10:40
Sample: 1947Q1 1994Q4
Included observations: 192
Coefficient Std. Error t-Statistic Prob.
INV 4.437806 0.089206 49.74774 0.0000
C 1691.349 35.62690 47.47394 0.0000
R-squared 0.928701 Mean dependent var 3034.089
Adjusted R-squared 0.928326 S.D. dependent var 1203.576
S.E. of regression 322.2217 Akaike info criterion 14.39872
Sum squared resid 19727093 Schwarz criterion 14.43265
Log likelihood -1380.277 Hannan-Quinn criter. 14.41246
F-statistic 2474.838 Durbin-Watson stat 0.051267
Prob(F-statistic) 0.000000


6,000
5,000
4,000
3,000
2,000
1,000
800
400
0
-400
-800
50
55
60
65
70
75
80
85
90
Residual
Actual
Fitted



Forecast: GDPF
Actual: GDP
Forecast sample: 1946Q1 1999Q4
Adjusted sample: 1946Q1 1995Q1
Included observations: 193

Root Mean Squared Error	321.1456
Mean Absolute Error	266.1391
Mean Abs. Percent Error	11.60514
Theil Inequality Coefficient	0.049070
Bias Proportion	0.000046
Variance Proportion	0.014060
Covariance Proportion	0.985894

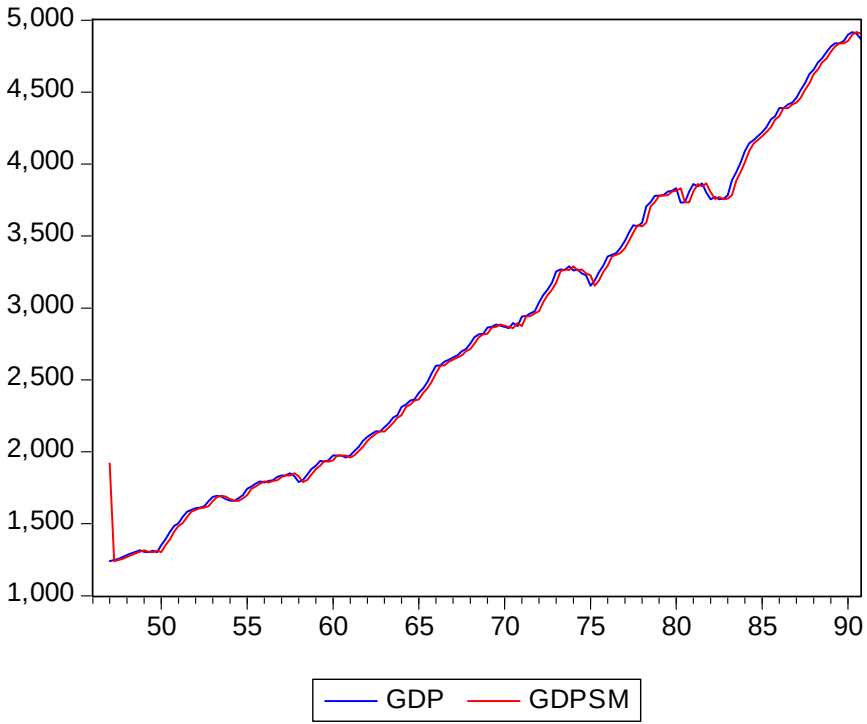
四、时间序列分析

1、以时间为自变量回归

2、季节模型

3、平滑方法

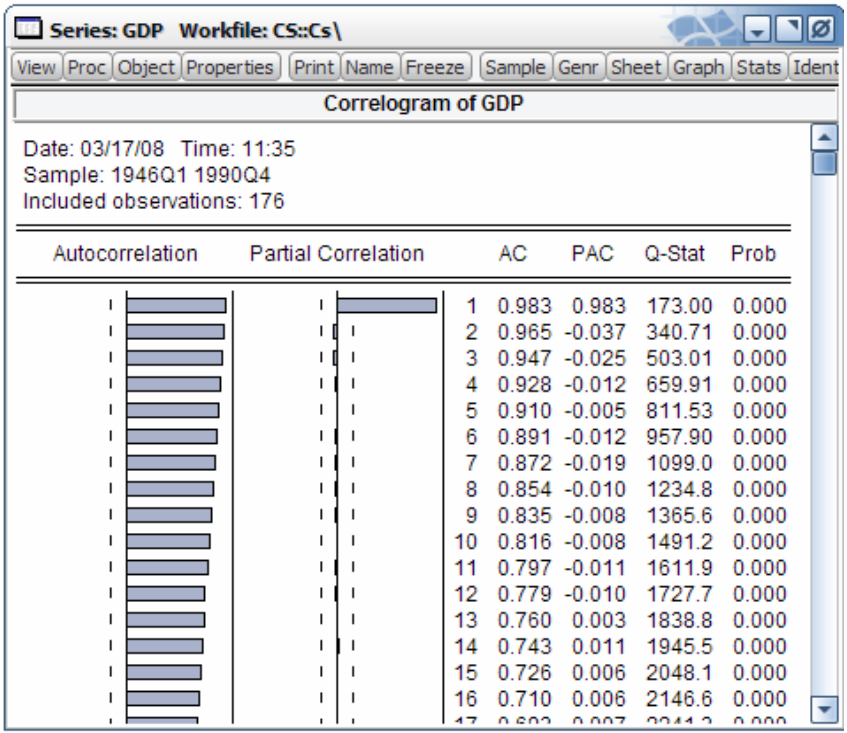
示例：GDP 数据的指数平滑

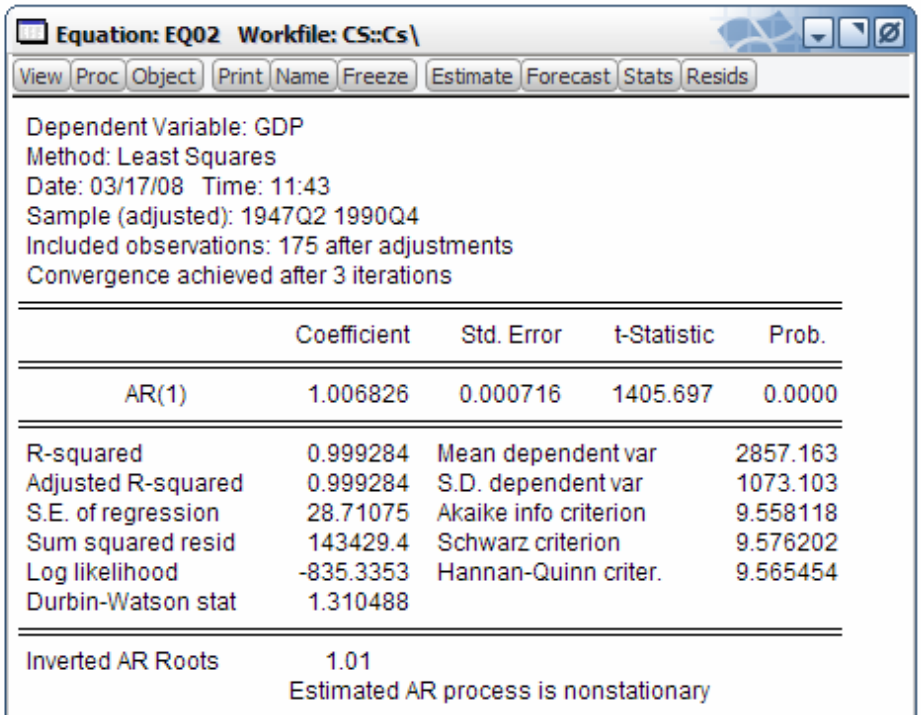

5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
50
55
60
65
70
75
80
85
90
GDP
GDPSM

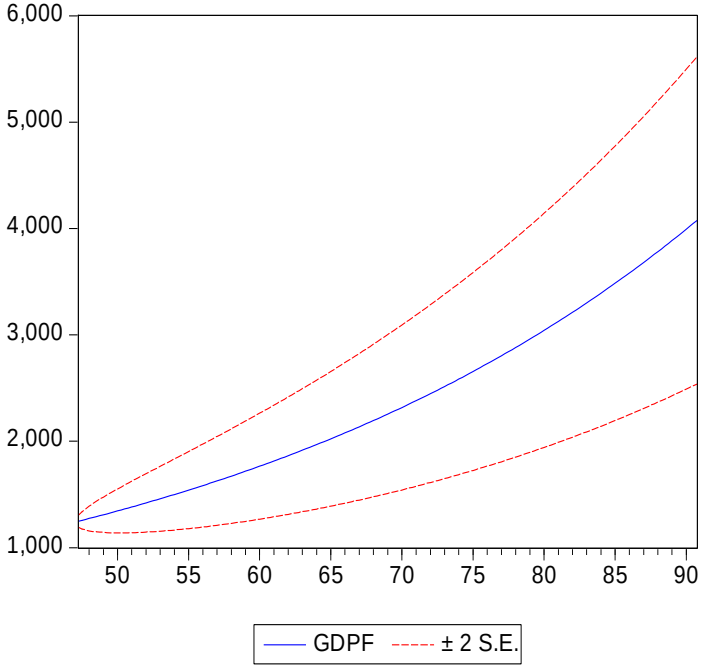
六、ARMA模型的应用

1、自相关、偏自相关

2、ARMA 建模方法


Series: GDP Workfile: CS::Cs\
View Proc Object Properties Print Name Freeze Sample Genr Sheet Graph Stats Ident
Correlogram of GDP
Date: 03/17/08 Time: 11:35
Sample: 1946Q1 1990Q4
Included observations: 176
Autocorrelation Partial Correlation AC PAC Q-Stat Prob
1 0.983 0.983 173.00 0.000
2 0.965 -0.037 340.71 0.000
3 0.947 -0.025 503.01 0.000
4 0.928 -0.012 659.91 0.000
5 0.910 -0.005 811.53 0.000
6 0.891 -0.012 957.90 0.000
7 0.872 -0.019 1099.0 0.000
8 0.854 -0.010 1234.8 0.000
9 0.835 -0.008 1365.6 0.000
10 0.816 -0.008 1491.2 0.000
11 0.797 -0.011 1611.9 0.000
12 0.779 -0.010 1727.7 0.000
13 0.760 0.003 1838.8 0.000
14 0.743 0.011 1945.5 0.000
15 0.726 0.006 2048.1 0.000
16 0.710 0.006 2146.6 0.000


Equation: EQ02 Workfile: CS::Cs\
View Proc Object Print Name Freeze Estimate Forecast Stats Resids
Dependent Variable: GDP
Method: Least Squares
Date: 03/17/08 Time: 11:43
Sample (adjusted): 1947Q2 1990Q4
Included observations: 175 after adjustments
Convergence achieved after 3 iterations
Coefficient Std. Error t-Statistic Prob.
AR(1) 1.006826 0.000716 1405.697 0.0000
R-squared 0.999284 Mean dependent var 2857.163
Adjusted R-squared 0.999284 S.D. dependent var 1073.103
S.E. of regression 28.71075 Akaike info criterion 9.558118
Sum squared resid 143429.4 Schwarz criterion 9.576202
Log likelihood -835.3353 Hannan-Quinn criter. 9.565454
Durbin-Watson stat 1.310488
Inverted AR Roots 1.01
Estimated AR process is nonstationary



Forecast: GDPF
Actual: GDP
Forecast sample: 1946Q1 1990Q4
Adjusted sample: 1947Q2 1990Q4
Included observations: 175

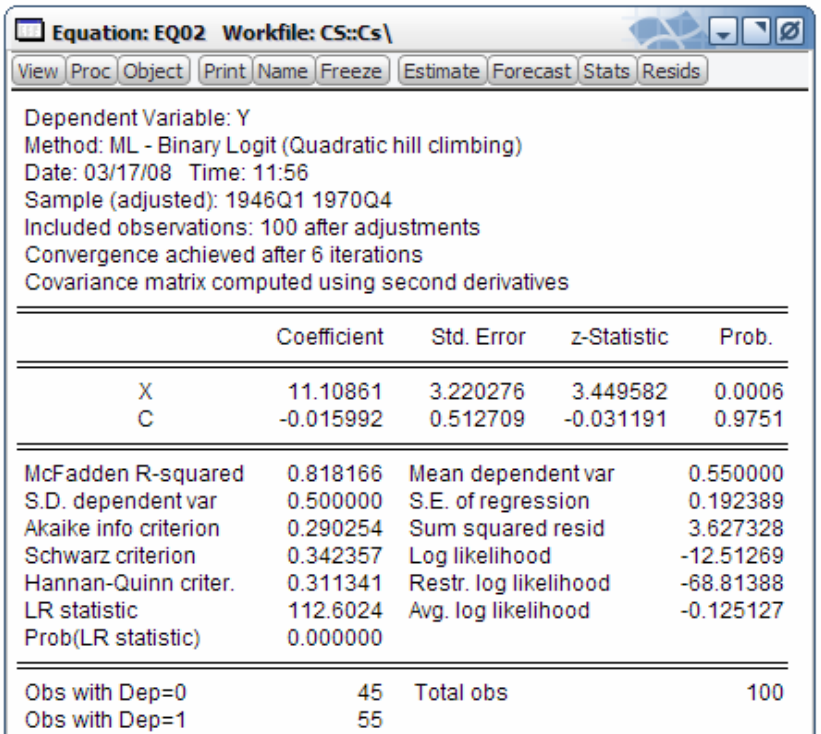
Root Mean Squared Error	540.6654
Mean Absolute Error	467.0191
Mean Abs. Percent Error	14.77617
Theil Inequality Coefficient	0.096962
Bias Proportion	0.743587
Variance Proportion	0.227444
Covariance Proportion	0.028969

七、特殊因变量的回归模型

因变量为离散形式

示例：宏观经济景气指数

因变量：偏冷？偏热？



Equation: EQ02 Workfile: CS::Cs\

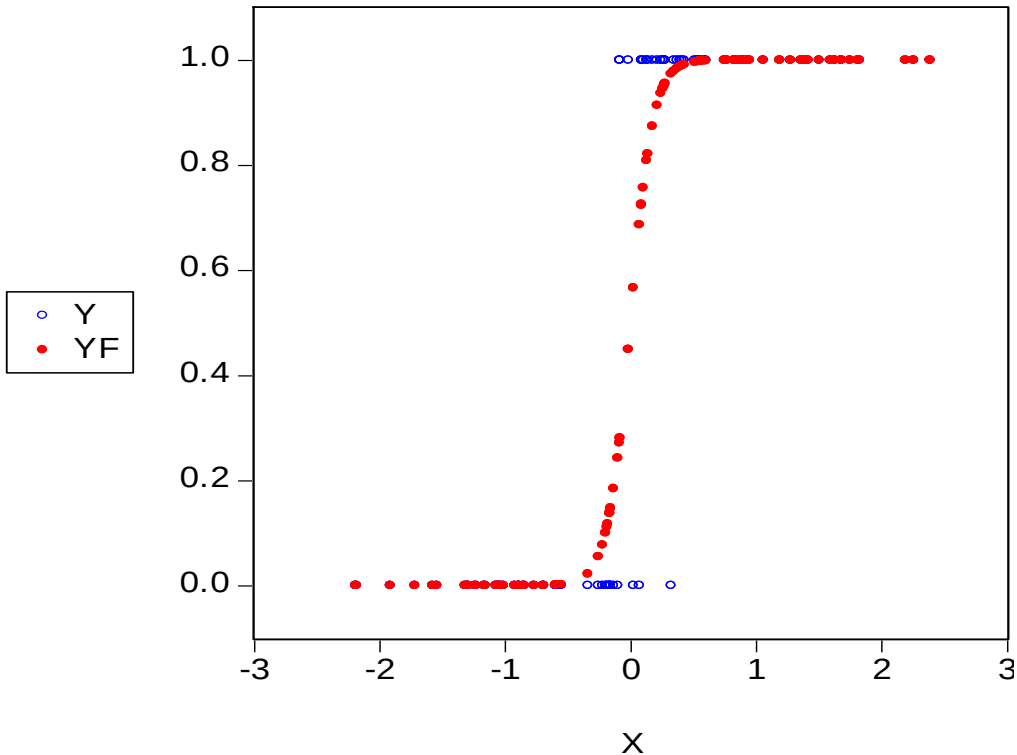
View | Proc | Object | Print | Name | Freeze | Estimate | Forecast | Stats | Resids

Dependent Variable: Y
Method: ML - Binary Logit (Quadratic hill climbing)
Date: 03/17/08 Time: 11:56
Sample (adjusted): 1946Q1 1970Q4
Included observations: 100 after adjustments
Convergence achieved after 6 iterations
Covariance matrix computed using second derivatives

	Coefficient	Std. Error	z-Statistic	Prob.
X	11.10861	3.220276	3.449582	0.0006
C	-0.015992	0.512709	-0.031191	0.9751

McFadden R-squared	0.818166	Mean dependent var	0.550000
S.D. dependent var	0.500000	S.E. of regression	0.192389
Akaike info criterion	0.290254	Sum squared resid	3.627328
Schwarz criterion	0.342357	Log likelihood	-12.51269
Hannan-Quinn criter.	0.311341	Restr. log likelihood	-68.81388
LR statistic	112.6024	Avg. log likelihood	-0.125127
Prob(LR statistic)	0.000000		

Obs with Dep=0	45	Total obs	100
Obs with Dep=1	55		


Y
YF
1.0
0.8
0.6
0.4
0.2
0.0
-3
-2
-1
0
1
2
3
X

八、EViews编程功能

赋值、条件、循环等等

```
for !i=1 to 100
   series x=@rnorm
   x.line
   for !j=1 to 3000
   next
next
```

谢谢大家！