

EViews tutorial: basics

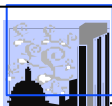
Professor Roy Batchelor

City University Business School, London

& ESCP, Paris

EViews Tutorial 1

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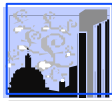


EViews

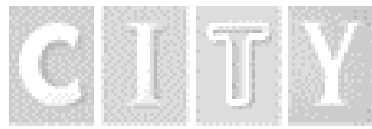
- ☐ On the City University system, EViews 3.1 is in Start/ Programs/ Departmental Software/CUBS
- ☐ Copying data from EXCEL into EViews
- ☐ Analysing a single variable using VIEW
- ☐ Analysing a group of variables using VIEW
- ☐ OLS regression
- ☐ 1-step forecasting from a regression

EViews Tutorial 2

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Copying data from EXEL into EVIEWS



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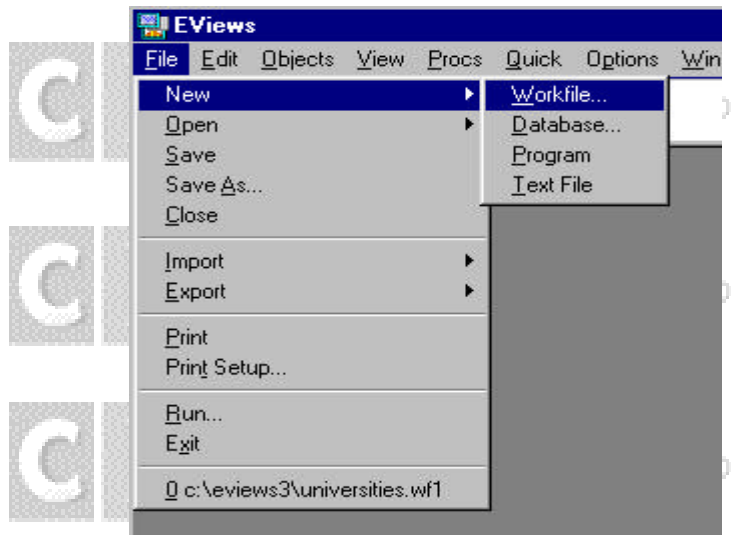
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EVIEWS Tutorial 3

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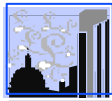


Open a new workfile

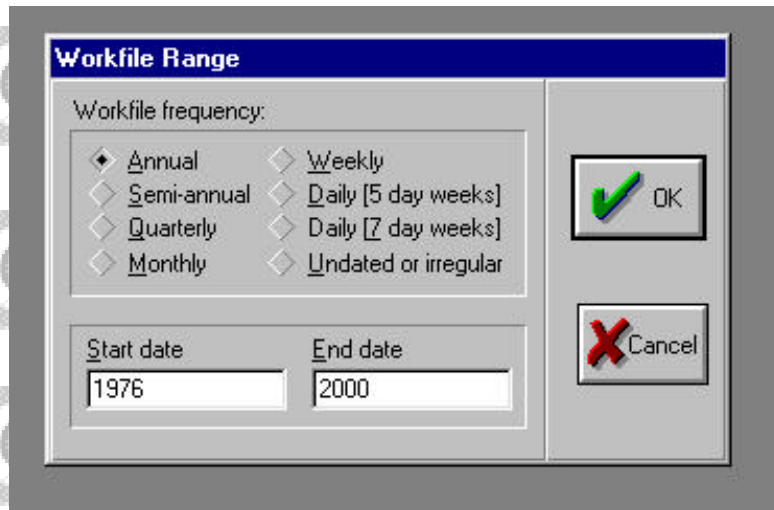


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Specify data frequency and range ...

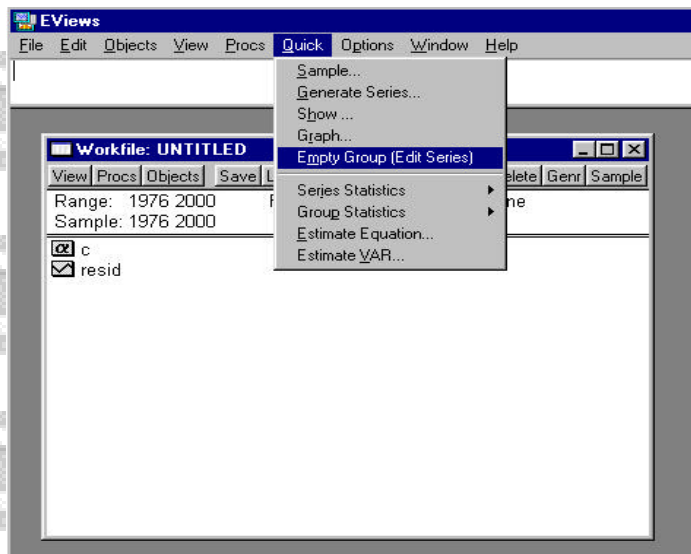


EViews Tutorial 5

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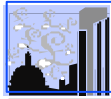


Create a new empty group ...



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Highlight and copy data in EXCEL ...

| YEAR | LRETN | DY | PE | RS | INFL | GROWTH | CONF |
|------|-------|------|-------|-------|-------|--------|--------|
| 1976 | 11.45 | 5.22 | 10.29 | 22.89 | 9.23 | -2.60 | 20.00 |
| 1977 | 17.46 | 5.89 | 9.30 | 16.22 | 11.83 | 7.60 | 22.00 |
| 1978 | 26.77 | 5.59 | 6.30 | 9.48 | 5.83 | 0.00 | 22.00 |
| 1979 | 15.29 | 5.70 | 7.94 | 9.80 | 12.20 | 5.56 | 19.00 |
| 1980 | 18.47 | 6.62 | 7.07 | 19.10 | 15.94 | -1.29 | -11.00 |
| 1981 | 10.87 | 6.39 | 6.39 | 12.46 | 12.66 | -8.98 | -17.00 |
| 1982 | 30.73 | 5.50 | 9.85 | 11.04 | 13.52 | 2.16 | 3.00 |
| 1983 | 24.86 | 4.91 | 10.86 | 6.34 | 11.05 | 3.67 | 8.00 |
| 1984 | 26.93 | 4.23 | 13.29 | 5.10 | 8.84 | 3.54 | 30.00 |
| 1985 | 26.91 | 4.22 | 12.29 | 6.44 | 12.00 | -0.37 | 22.00 |
| 1986 | 31.98 | 4.26 | 12.44 | 6.07 | 12.19 | 3.67 | 23.00 |
| 1987 | -5.72 | 3.66 | 15.49 | 3.93 | 10.58 | 5.15 | 29.00 |
| 1988 | 17.90 | 4.04 | 13.52 | 3.29 | 8.34 | 2.59 | 36.00 |
| 1989 | 11.59 | 4.11 | 12.87 | 7.81 | 12.25 | 4.86 | 26.00 |
| 1990 | 6.37 | 4.36 | 12.11 | 7.51 | 14.59 | -1.17 | 1.00 |
| 1991 | 14.04 | 5.31 | 10.71 | 8.90 | 13.25 | -1.40 | -35.00 |
| 1992 | 14.23 | 4.66 | 14.76 | 4.13 | 9.91 | -0.96 | -3.00 |
| 1993 | 19.65 | 4.31 | 17.54 | 1.83 | 5.50 | 1.74 | 9.00 |
| 1994 | -6.00 | 3.32 | 22.03 | 2.38 | 4.87 | 3.91 | 24.00 |
| 1995 | 23.40 | 4.09 | 17.43 | 3.38 | 6.31 | 2.96 | 36.00 |
| 1996 | 14.42 | 3.75 | 17.12 | 2.72 | 6.03 | 1.10 | 20.00 |
| 1997 | 23.26 | 3.59 | 18.64 | 2.72 | 5.95 | 1.46 | 18.00 |
| 1998 | 11.22 | 2.66 | 20.76 | 3.42 | 7.25 | 0.10 | 11.00 |
| 1999 | 12.79 | 2.43 | 23.54 | 2.12 | 5.66 | -0.39 | -10.00 |
| 2000 | | 2.11 | 30.11 | 2.32 | 5.69 | 1.22 | 10.00 |

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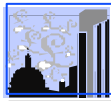


Paste data to EViews group

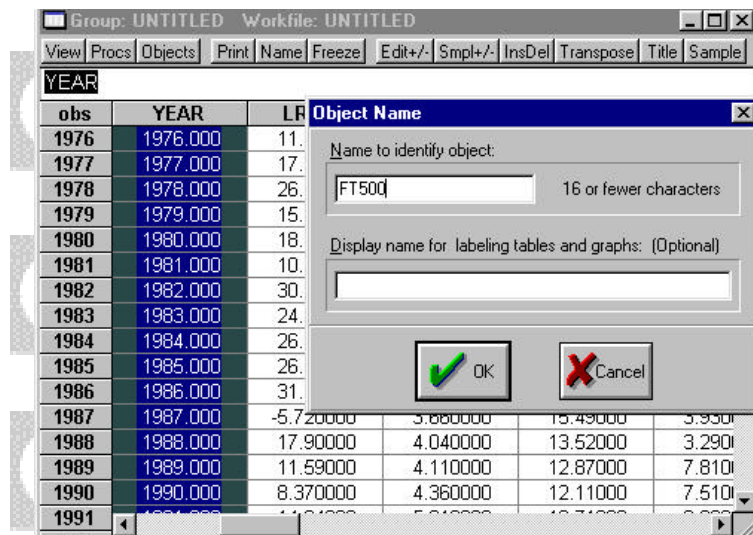
| obs | YEAR | LRETN | DY | PE | INFL |
|------|----------|-----------|----------|----------|----------|
| 1976 | 1976.000 | 11.45000 | 5.220000 | 10.29000 | 22.89000 |
| 1977 | 1977.000 | 17.46000 | 5.890000 | 9.300000 | 16.22000 |
| 1978 | 1978.000 | 26.77000 | 5.590000 | 6.300000 | 9.480000 |
| 1979 | 1979.000 | 15.28000 | 5.700000 | 7.940000 | 9.800000 |
| 1980 | 1980.000 | 18.47000 | 6.620000 | 7.070000 | 19.10000 |
| 1981 | 1981.000 | 10.87000 | 6.390000 | 6.390000 | 12.46000 |
| 1982 | 1982.000 | 30.73000 | 5.500000 | 9.850000 | 11.04000 |
| 1983 | 1983.000 | 24.86000 | 4.910000 | 10.86000 | 5.340000 |
| 1984 | 1984.000 | 26.93000 | 4.230000 | 13.29000 | 5.100000 |
| 1985 | 1985.000 | 26.91000 | 4.220000 | 12.29000 | 5.440000 |
| 1986 | 1986.000 | 31.98000 | 4.260000 | 12.44000 | 5.070000 |
| 1987 | 1987.000 | -5.720000 | 3.660000 | 15.49000 | 3.930000 |
| 1988 | 1988.000 | 17.90000 | 4.040000 | 13.52000 | 3.290000 |
| 1989 | 1989.000 | 11.59000 | 4.110000 | 12.87000 | 7.810000 |
| 1990 | 1990.000 | 6.370000 | 4.360000 | 12.11000 | 7.510000 |
| 1991 | 1991.000 | 14.04000 | 5.310000 | 10.71000 | 8.900000 |
| 1992 | 1992.000 | 14.23000 | 4.660000 | 14.76000 | 4.130000 |
| 1993 | 1993.000 | 19.65000 | 4.310000 | 17.54000 | 1.830000 |

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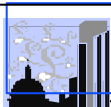


Name group ...



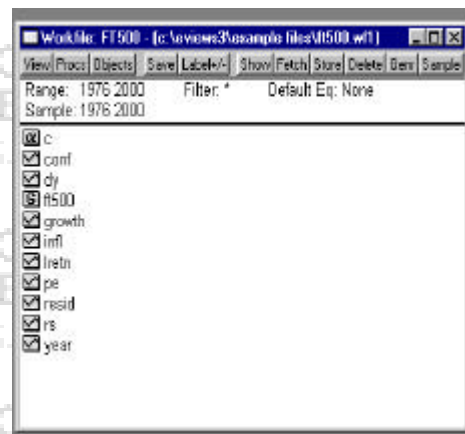
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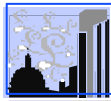
Objects in the workfile

- ❑ The workfile now contains
 - constant (*c*)
 - series for regression (*resid*)
 - the input variables (*conf*, *dy*, ..)
 - a Group (*ft500*) containing all the input variables
- ❑ Workfile can be named FT500 and saved using File/SaveAs

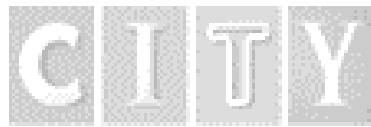


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Analysing a single variable using VIEW



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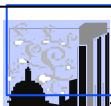
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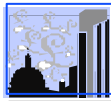
Looking at a single variable...

The screenshot shows the EViews software interface. On the left, a list of variables is displayed with checkboxes. The 'LRETN' variable is selected. The main window displays a table of data for the 'LRETN' series, with columns for Year, LRETN, and other variables. The data is sorted by Year, ranging from 1976 to 1989. The 'LRETN' column contains values ranging from 11.45000 to 17.90000.

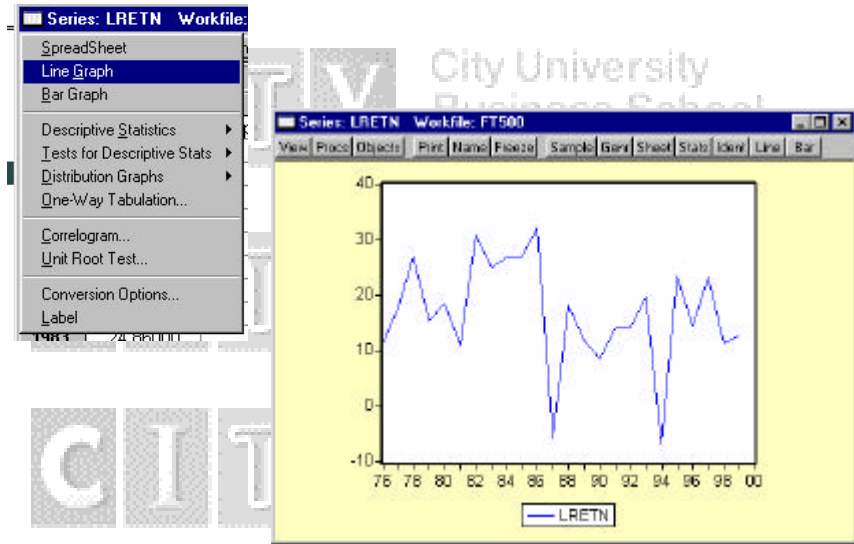
| Year | LRETN |
|------|-----------|
| 1976 | 11.45000 |
| 1977 | 17.46000 |
| 1978 | 26.77000 |
| 1979 | 15.28000 |
| 1980 | 18.47000 |
| 1981 | 10.87000 |
| 1982 | 30.73000 |
| 1983 | 24.86000 |
| 1984 | 26.93000 |
| 1985 | 26.91000 |
| 1986 | 31.98000 |
| 1987 | -5.720000 |
| 1988 | 17.90000 |
| 1989 | 17.90000 |

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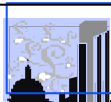


..line graph view ...

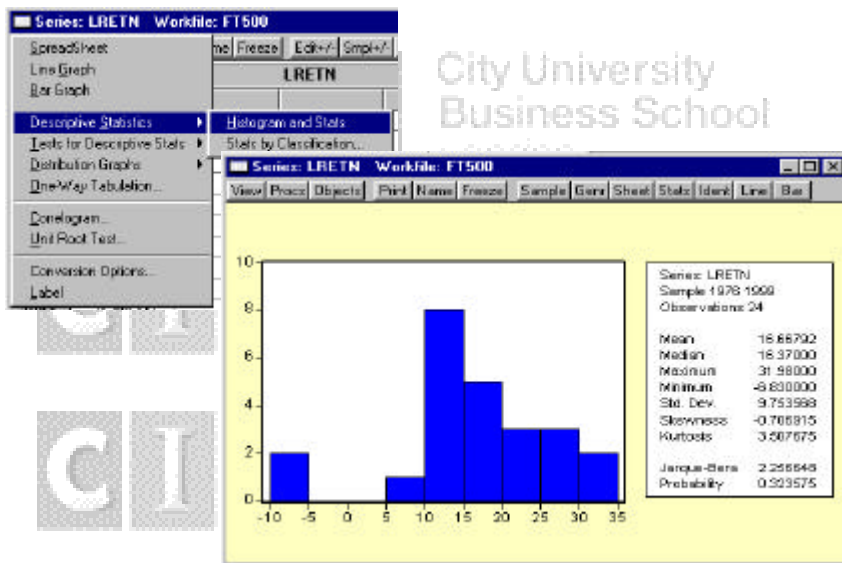


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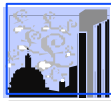


... descriptive statistics ...

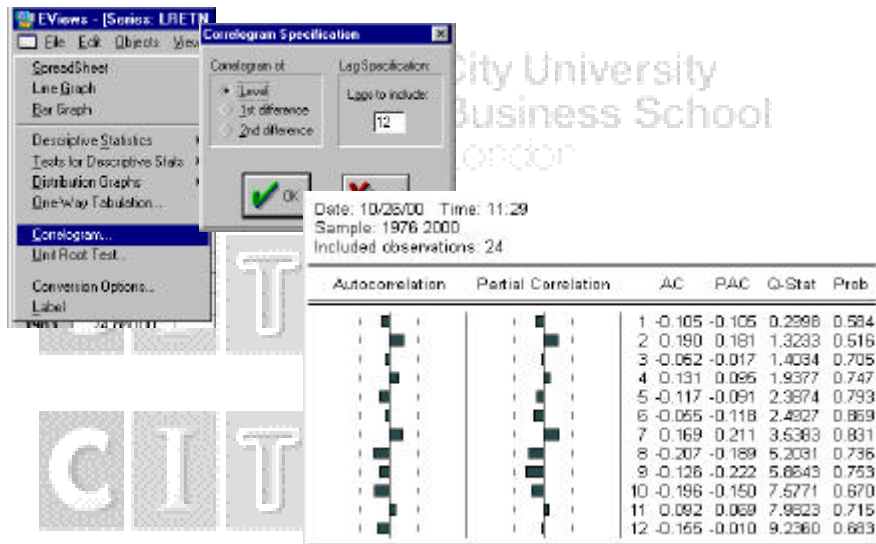


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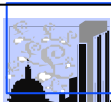


... autocorrelation function ...

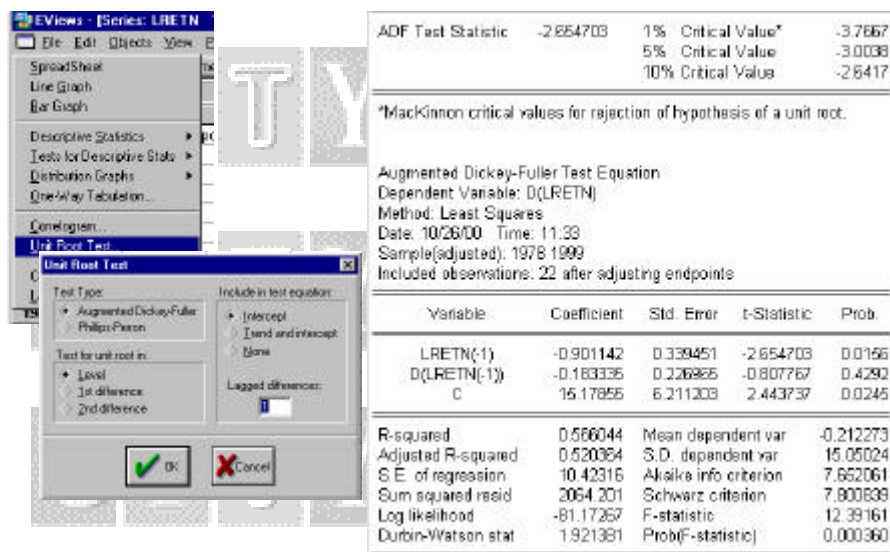


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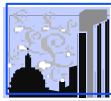


... ADF unit root tests ...

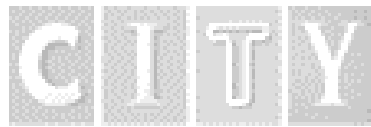


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Analysing a group of variables using VIEW



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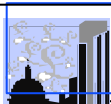
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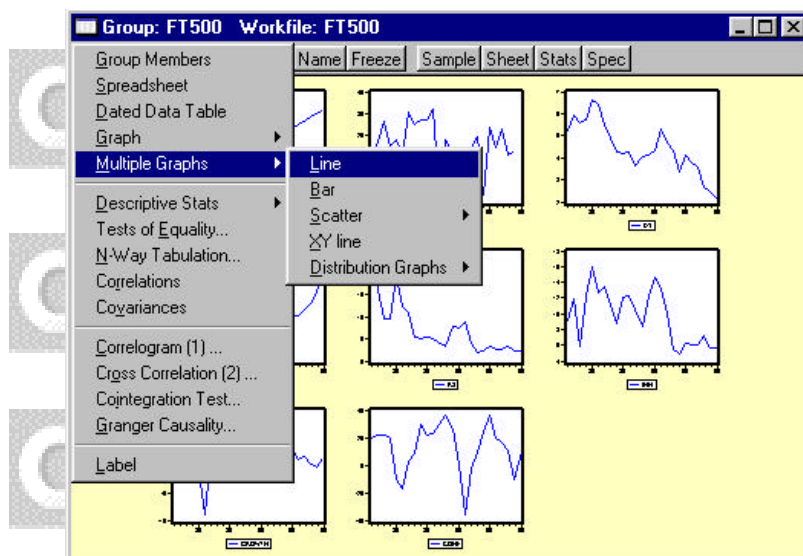
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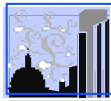


Group views ... multiple graphs ..



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... descriptive statistics ...

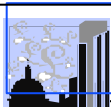
Group: FT500 Workfile: UNTITLED

| | YEAR | LRETN | DY | PE | INFL | RS | GROWTH | CONF |
|--------------|----------|-----------|----------|----------|----------|-----------|-----------|-----------|
| Mean | 1987.500 | 16.96792 | 4.533790 | 19.96375 | 7.328333 | 9.831667 | 1.378750 | 13.91667 |
| Median | 1987.500 | 16.37000 | 4.285000 | 12.65500 | 5.220000 | 10.24500 | 1.610000 | 16.50000 |
| Maximum | 1999.000 | 31.98000 | 6.620000 | 23.54000 | 22.88000 | 15.94000 | 7.600000 | 43.00000 |
| Minimum | 1976.000 | -6.830000 | 2.430000 | 6.380000 | 1.630000 | 4.970000 | -8.960000 | -37.00000 |
| Std. Dev. | 7.071088 | 9.753588 | 1.081170 | 4.802034 | 5.607791 | 3.292710 | 3.421137 | 20.03240 |
| Skewness | 0.000000 | -0.708915 | 0.062058 | 0.521640 | 1.358471 | -0.001193 | -0.874222 | -0.710268 |
| Kurtosis | 1.795826 | 3.507675 | 2.474068 | 2.419477 | 4.084244 | 1.753118 | 4.726082 | 3.085643 |
| Jarque-Bera | 1.450036 | 2.258648 | 0.309539 | 1.425439 | 8.579149 | 1.554730 | 6.036416 | 2.025259 |
| Probability | 0.484316 | 0.323575 | 0.859186 | 0.493309 | 0.013711 | 0.459618 | 0.046889 | 0.363262 |
| Observations | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |



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...correlation matrix ...

Workfile: UNTITLED

Range: 1976 2000 Filter: * Default Eq: None
Sample: 1976 2000

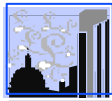
Group: FT500 Workfile: UNTITLED

Correlation Matrix

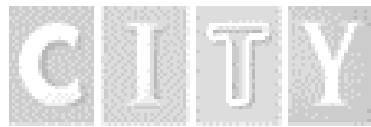
| | YEAR | LRETN | DY | PE | INFL | RS | GROWTH | CONF |
|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| YEAR | 1.000000 | -0.244508 | -0.819032 | 0.877766 | -0.782011 | -0.544716 | -0.068657 | -0.148666 |
| LRETN | -0.244508 | 1.000000 | 0.266839 | -0.337077 | 0.048166 | 0.103946 | 0.040094 | 0.457153 |
| DY | -0.819032 | 0.266839 | 1.000000 | -0.921544 | 0.768690 | 0.628638 | -0.230439 | -0.181619 |
| PE | 0.877766 | -0.337077 | -0.921544 | 1.000000 | -0.723595 | -0.737502 | 0.182053 | 0.043795 |
| INFL | -0.782011 | 0.048166 | 0.768690 | -0.723595 | 1.000000 | 0.554447 | -0.252154 | -0.188331 |
| RS | -0.544716 | 0.103946 | 0.628638 | -0.737502 | 0.554447 | 1.000000 | -0.114597 | -0.305728 |
| GROWTH | -0.068657 | 0.040094 | -0.230439 | 0.182053 | -0.252154 | -0.114597 | 1.000000 | 0.574493 |
| CONF | -0.148666 | 0.457153 | -0.181619 | 0.043795 | -0.188331 | -0.305728 | 0.574493 | 1.000000 |

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OLS regression



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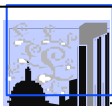
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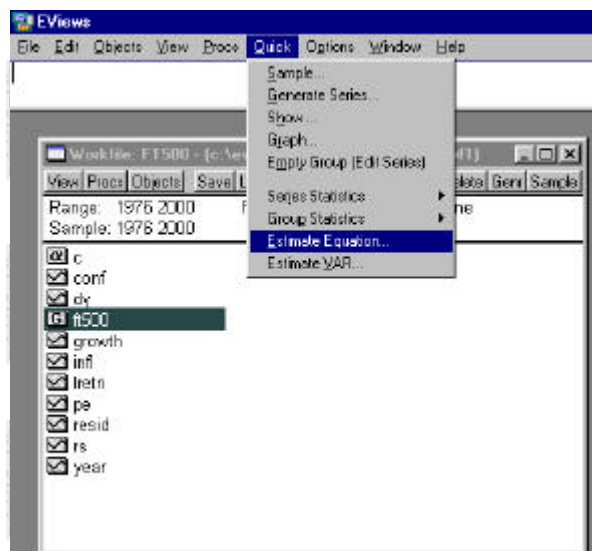
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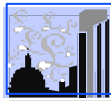


Regression



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Specify variables/ method/ sample

Equation Specification

Equation Specification:
Dependent variable followed by list of regressors including ARMA and PDL terms, OR an explicit equation like $Y=c(1)+c(2)*X$.

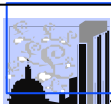
lretn c pe

Estimation Settings:
Method: LS - Least Squares (NLS and ARMA)
Sample: 1976 2000

OK
Cancel
Options

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OLS Regression output

Equation: UNTITLED Workfile: FT500

View Procs Objects Print Name Freeze Estimate Forecast Stats Resids

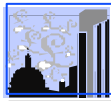
Dependent Variable: LRETN
Method: Least Squares
Date: 10/26/00 Time: 11:43
Sample(adjusted): 1976 1999
Included observations: 24 after adjusting endpoints

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|--------|
| C | 25.95432 | 5.852593 | 4.434671 | 0.0002 |
| PE | -0.684649 | 0.407696 | -1.679312 | 0.1072 |

| | | | |
|--------------------|-----------|-----------------------|----------|
| R-squared | 0.113621 | Mean dependent var | 16.66792 |
| Adjusted R-squared | 0.073331 | S.D. dependent var | 9.753568 |
| S.E. of regression | 9.389140 | Akaike info criterion | 7.396640 |
| Sum squared resid | 1939.431 | Schwarz criterion | 7.494811 |
| Log likelihood | -86.75968 | F-statistic | 2.820088 |
| Durbin-Watson stat | 2.228379 | Prob(F-statistic) | 0.107239 |

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Estimate view ... change to multiple reg

Equation: UNTITLED Workfile: UNTITLED

View | Procs | Objects | Print | Name | Freeze | Estimate | Forecast | Stats | Resids

Dependent Variable: LRETN

Equation Specification

Equation Specification:
Dependent variable followed by list of regressors including ARMA and PDL terms, OR an explicit equation like $Y=c(1)+c(2)*X$.

LRETN C DY PE INFL RS GROWTH CONF

Estimation Settings:

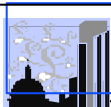
Method: LS - Least Squares (NLS and ARMA)

Sample: 1976 2000

OK Cancel Options

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Stats view

Equation: UNTITLED Workfile: UNTITLED

View | Procs | Objects | Print | Name | Freeze | Estimate | Forecast | Stats | Resids

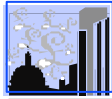
Dependent Variable: LRETN
Method: Least Squares
Date: 10/26/00 Time: 20:41
Sample(adjusted): 1976 1999
Included observations: 24 after adjusting endpoints

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|--------|
| C | -21.18545 | 49.20587 | -0.430547 | 0.6722 |
| DY | 5.796833 | 5.366742 | 1.080140 | 0.2952 |
| PE | 0.388172 | 1.423416 | 0.272704 | 0.7884 |
| INFL | -0.687675 | 0.496150 | -1.386023 | 0.1837 |
| RS | 0.762647 | 1.040261 | 0.733130 | 0.4735 |
| GROWTH | -1.039542 | 0.704651 | -1.475258 | 0.1584 |
| CONF | 0.379517 | 0.146095 | 2.597741 | 0.0188 |

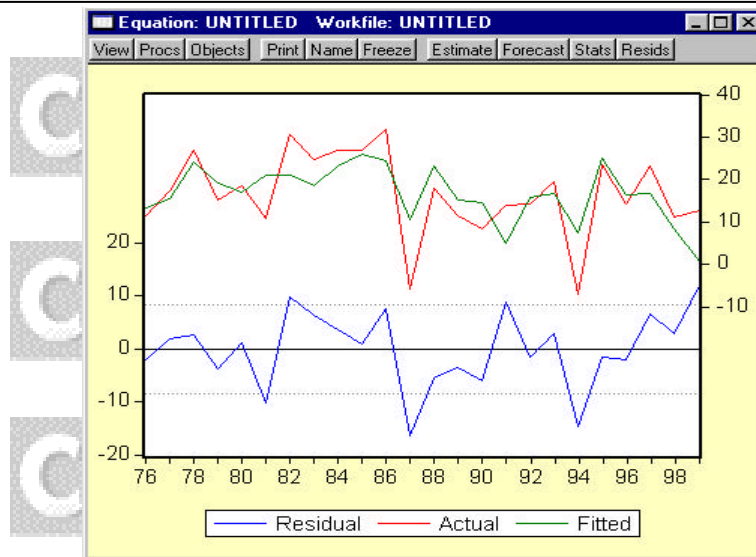
| | | | |
|--------------------|-----------|-----------------------|----------|
| R-squared | 0.456485 | Mean dependent var | 16.66792 |
| Adjusted R-squared | 0.264656 | S.D. dependent var | 9.753568 |
| S.E. of regression | 8.363902 | Akaike info criterion | 7.324220 |
| Sum squared resid | 1189.233 | Schwarz criterion | 7.667819 |
| Log likelihood | -80.89064 | F-statistic | 2.379643 |
| Durbin-Watson stat | 2.000459 | Prob(F-statistic) | 0.074634 |

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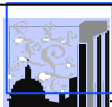


Resids view



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Forecasting



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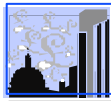
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Estimate over in-sample period (76-95)

Equation: UNTITLED Workfile: UNTITLED

View Procs Objects Print Name Freeze Estimate Forecast Stats Resids

Dependent Variable: LRETN
Method: Least Squares
Date: 10/26/00 Time: 21:14
Sample: 1976 1995
Included observations: 20

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------|-------------|------------|-------------|--------|
| C | -53.22898 | 47.14431 | -1.129065 | 0.2793 |
| DY | 11.18982 | 5.435997 | 2.058466 | 0.0602 |
| PE | 0.495610 | 1.304586 | 0.379899 | 0.7102 |
| INFL | -1.101873 | 0.479231 | -2.299253 | 0.0387 |
| RS | 1.262540 | 0.971628 | 1.299406 | 0.2164 |
| GROWTH | -0.933603 | 0.642299 | -1.453534 | 0.1698 |
| CONF | 0.497818 | 0.142194 | 3.500968 | 0.0039 |

| | | | |
|--------------------|-----------|-----------------------|----------|
| R-squared | 0.648000 | Mean dependent var | 16.91700 |
| Adjusted R-squared | 0.485539 | S.D. dependent var | 10.49704 |
| S.E. of regression | 7.529106 | Akaike info criterion | 7.144647 |
| Sum squared resid | 736.9366 | Schwarz criterion | 7.493153 |
| Log likelihood | -64.44647 | F-statistic | 3.988638 |

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Forecast for out-of-sample period 96-00

Equation: UNTITLED Workfile: UNTITLED

View Procs Objects Print Name Freeze Estimate Forecast Stats Resids

Dependent Variable: LRETN
Method: **Forecast**
Date: 10
Sample: 1976 1995
Included observations: 20

Forecast of LRETN

Series names:
Forecast name: LRETNF
S.E. (optional):
GARCH(optional):

Method:
☐ Dynamic
☒ Static
☐ Structural (ignore ARMA)

Output:
☒ Do graph
☒ Forecast evaluation

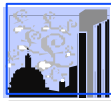
Sample range for forecast:
1996 2000

OK Cancel

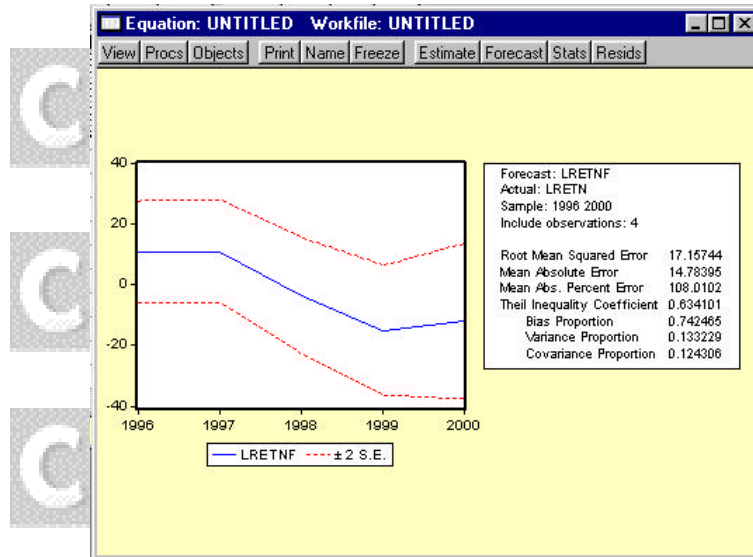
| | | | |
|--------------------|-----------|-----------------------|----------|
| R-squared | 0.648000 | Mean dependent var | 16.91700 |
| Adjusted R-squared | 0.485539 | S.D. dependent var | 10.49704 |
| S.E. of regression | 7.529106 | Akaike info criterion | 7.144647 |
| Sum squared resid | 736.9366 | Schwarz criterion | 7.493153 |
| Log likelihood | -64.44647 | F-statistic | 3.988638 |

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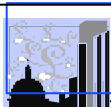


Graph and evaluation stats



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Make Group with actual and forecast

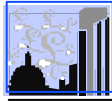
Workfile: UNTITLED
Range: 1976 2000 Filter: * Default Eq: Untitled
Sample: 1976 2000

Group: UNTITLED Workfile: UNTITLED

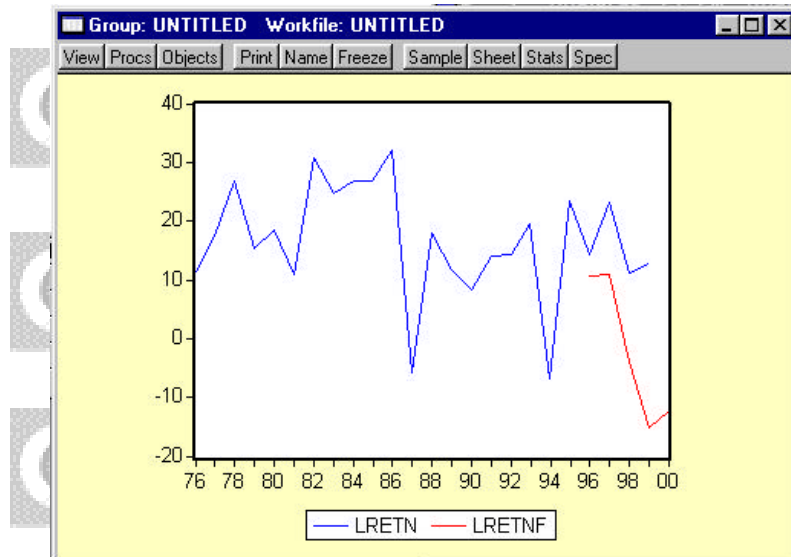
| obs | LRETN | LRETNF |
|------|-----------|-----------|
| 1986 | 31.98000 | NA |
| 1987 | -5.720000 | NA |
| 1988 | 17.90000 | NA |
| 1989 | 11.59000 | NA |
| 1990 | 8.370000 | NA |
| 1991 | 14.04000 | NA |
| 1992 | 14.23000 | NA |
| 1993 | 19.65000 | NA |
| 1994 | -6.830000 | NA |
| 1995 | 23.40000 | NA |
| 1996 | 14.42000 | 10.76310 |
| 1997 | 23.26000 | 10.86286 |
| 1998 | 11.22000 | -3.901006 |
| 1999 | 12.79000 | -15.17076 |
| 2000 | NA | -12.24945 |

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Graph View: actual v. forecast



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