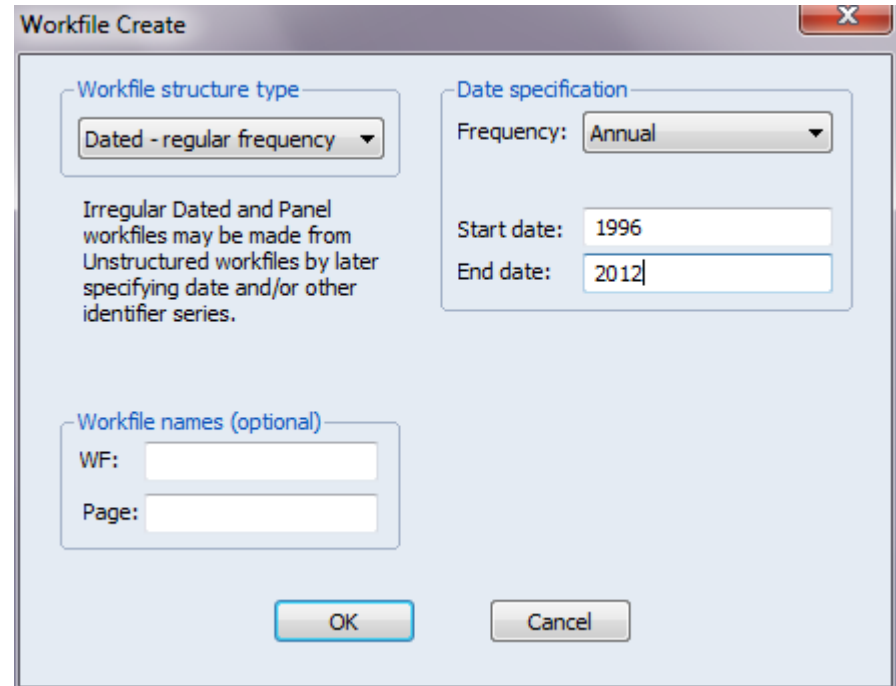


# Work with EViews

Ass.Prof. Andriy Stavytskyy

# Creating a Workfile

- ▶ To create a new workfile, select **File/New/Workfile...** from the main menu to open the **Workfile Create** dialog



The screenshot shows the 'Workfile Create' dialog box with the following fields and options:

- Workfile structure type:** A dropdown menu set to 'Dated - regular frequency'.
- Date specification:** A section containing:
  - Frequency:** A dropdown menu set to 'Annual'.
  - Start date:** A text box containing '1996'.
  - End date:** A text box containing '2012'.
- Workfile names (optional):** A section containing:
  - WF:** An empty text box.
  - Page:** An empty text box.
- Instructions:** A text block stating: 'Irregular Dated and Panel workfiles may be made from Unstructured workfiles by later specifying date and/or other identifier series.'
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.

# Date specification

- ▶ When you select **Dated – regular frequency**, EViews will prompt you to select a frequency for your data. You may choose between the standard EViews supported date frequencies (**Multi-year, Annual, Semi-annual, Quarterly, Monthly, Bimonthly, Fortnight, Ten-day, Weekly, Daily – 5 day week, Daily – 7 day week, Daily – custom week, Intraday**), and a special frequency (**Integer date**) which is a generalization of a simple enumeration.
- ▶ For non-annual dates the “:” separator is used.

Date specification

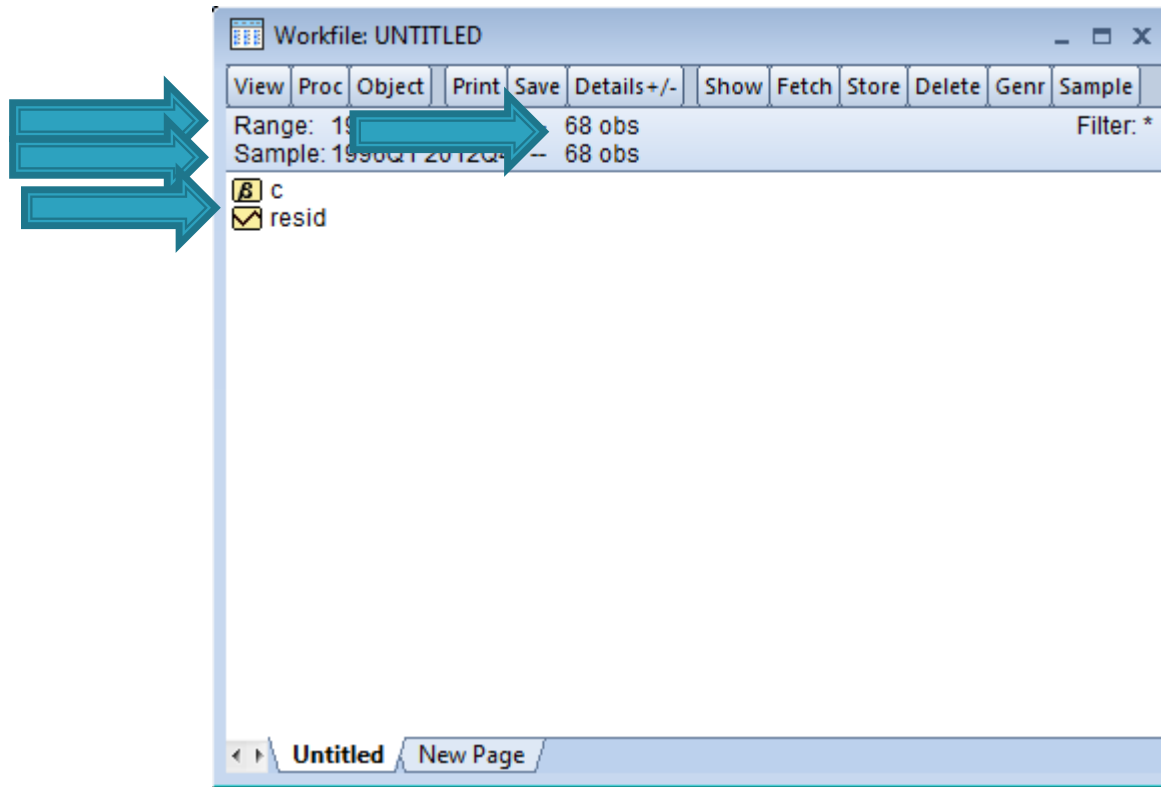
Frequency: **Annual**

Start date:

End date:





Multi-year  
Annual  
Semi-annual  
Quarterly  
Monthly  
Bimonthly  
Fortnight  
Ten-day (Trimonthly)  
Weekly  
Daily - 5 day week  
Daily - 7 day week  
Daily - custom week  
Intraday  
Integer date

# Workfile



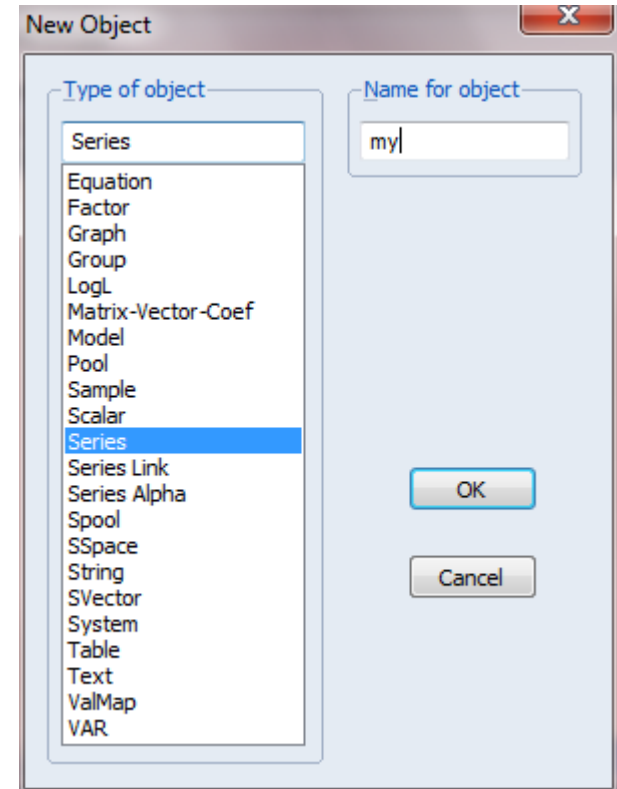
# Creating an object

- ▶ Information in EViews is stored in *objects*.
- ▶ The most common objects in EViews are series and equation objects.
- ▶ Menu **Object/New Object...**

	Alpha		Matrix		Spool		Text
	Coef		Model		Sspace		Valmap
	Equation		Pool		String		Var
	Factor		Rowvector		Svector		Vector
	Graph		Sample		Sym		
	Group		Scalar		System		
	Logl		Series		Table		

# Creating a variable

- ▶ *Object*→*New Object...*
- ▶ series my



# Working with Objects

- ▶ Naming Objects
  - ▶ Labelling Objects
  - ▶ Freezing Objects
  - ▶ Deleting Objects
  - ▶ Editing Series
  - ▶ Grouping Series
  - ▶ Viewing Series
- 

# Importing data: txt-file - 1

- ▶ File: oxford.txt
- ▶ Workfile: integer date, 1:40
- ▶ Menu **File/Import/Read...**

# Importing data: txt-file - 2

ASCII Text Import

Name for series or Number if named in file  
sex height sib dist deg count

Data order  
☒ in Columns  
☐ in Rows

Rectangular file layout  
☒ File laid out as rectangle  
Columns to skip: 1  
Rows to skip: 0  
Comment character:

Series headers  
# of headers (including names) before data: 10

Delimiters  
☒ Treat multiple delimiters as one  
☒ Tab  
☐ Comma  
☐ Space  
☐ Alpha (A-Z)  
☐ Custom:

Import sample  
1 40  
Reset sample to:  
☐ Current sample  
☐ Workfile range  
☐ To end of range

Miscellaneous  
☐ Quote with single ' not "  
☐ Drop strings - don't make NA  
☐ Numbers in (..) are negative  
☐ Allow commas in numbers  
Currency:  
Text for NA: NA

Preview - First 16K of file:  
Table A. Data set for a random sample of 40 students  
N - Student reference number  
SEX - Sex (1 = Male, 2 = Female)  
HEIGHT - Height (cm)  
SIB - Number of Siblings  
DIST - Distance from home to Oxford (km)

OK  
Cancel

# Importing data: xls-file - 1

Excel interface showing the 'Главная' (Home) ribbon. The formula bar displays '1' in cell B8. The spreadsheet contains the following data:

	A	B	C	D	E	F	G
1	Table B. Data set for a random sample of 40 students						
2	N - Student reference number						
3	SEX - Sex (1 = Male, 2 = Female)						
4	HEIGHT - Height (cm)						
5	DIST- Distance from home to Oxford (km)						
6	COUNT - A-level count						
7	N	SEX	HEIGHT	DIST	COUNT		
8		1	183	80	6		
9	2	2	163	3	32		
10	3	2	152	90	22		
11	4	2	157	272	12		
12	5	2	157	80	12		
13	6	2	165	8	18		
14	7	1	173	485	14		
15	8	1	180	176	8		
16	9	2	164	10	6		
17	10	2	160	72	18		

# Importing data: xls-file - 2

- ▶ File: oxford.xls
- ▶ Important!!! **Close xls file!**
- ▶ Workfile: integer date, 1:40
- ▶ Menu **File/Import/Read...**

# Importing data: xls-file - 3

The image shows a screenshot of the 'Excel Spreadsheet Import' dialog box. Several elements are highlighted with red circles and an oval:

- Data order:** The 'By Observation - series in columns' radio button is selected and circled in red.
- Upper-left data cell:** The text 'B8' is entered in the input field and circled in red.
- Names for series:** The text 'SEX HEIGHT DIST COUNT' is listed in the scrollable area and circled in red.

Other visible elements include:

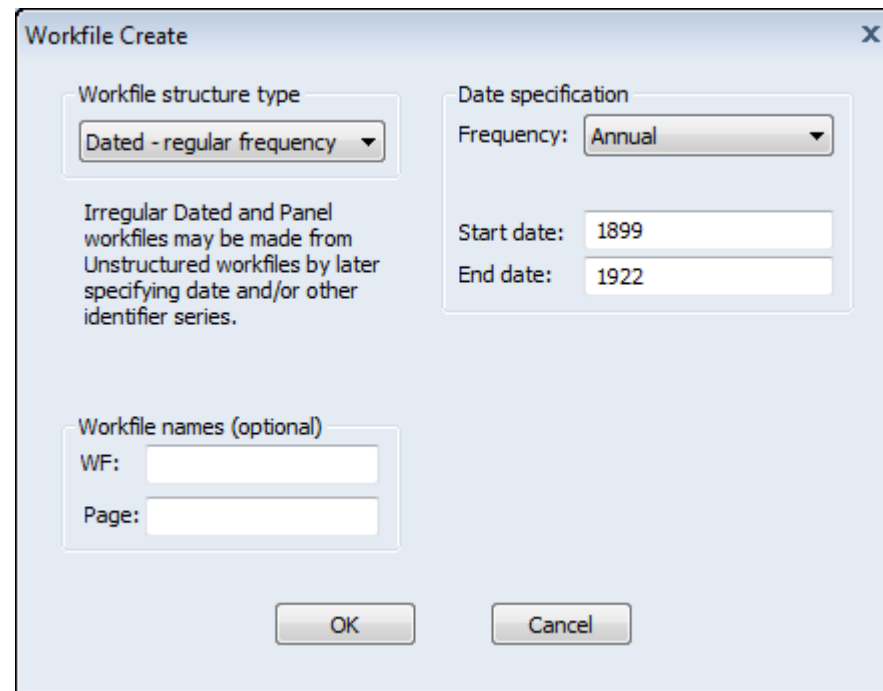
- By Series - series in rows:** An unselected radio button.
- Excel 5+ sheet name:** An empty text input field.
- Names for series:** A scrollable list containing 'SEX HEIGHT DIST COUNT'.
- Import sample:** A text input field containing '1 40'.
- Reset sample to:** Three unselected checkboxes: 'Current sample', 'Workfile range', and 'To end of range'.
- Write date/obs:** An unchecked checkbox.
- EViews date format:** Three unselected radio buttons: 'EViews date format', 'First calendar day', and 'Last calendar day'.
- Write series names:** An unchecked checkbox.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.

# File: Cobb.txt

- ▶ Y – index of industrial production
  - ▶ K – index of capital
  - ▶ L – index of labour
- 

# Import data – 1

- ▶ File – New – Workfile



The screenshot shows the 'Workfile Create' dialog box with the following settings:

- Workfile structure type:** Dated - regular frequency (selected from a dropdown menu).
- Date specification:**
  - Frequency: Annual (selected from a dropdown menu).
  - Start date: 1899
  - End date: 1922
- Workfile names (optional):**
  - WF: (empty text box)
  - Page: (empty text box)

Below the input fields are 'OK' and 'Cancel' buttons. A note in the center states: 'Irregular Dated and Panel workfiles may be made from Unstructured workfiles by later specifying date and/or other identifier series.'

# Import data - 2

- File-import-read - filename

ASCII Text Import

Name for series or Number if named in file: YKL

Data order:  
☒ in Columns  
☐ in Rows

Rectangular file layout:  
☒ File laid out as rectangle  
Columns to skip: 1  
Rows to skip: 0  
Comment character:

Series headers:  
# of headers (including names) before data: 1

Delimiters:  
☐ Treat multiple delimiters as one  
☒ Tab  
☐ Comma  
☐ Space  
☐ Alpha (A-Z)  
☐ Custom:

Import sample:  
1899 1922  
Reset sample to:  
☐ Current sample  
☐ Workfile range  
☐ To end of range

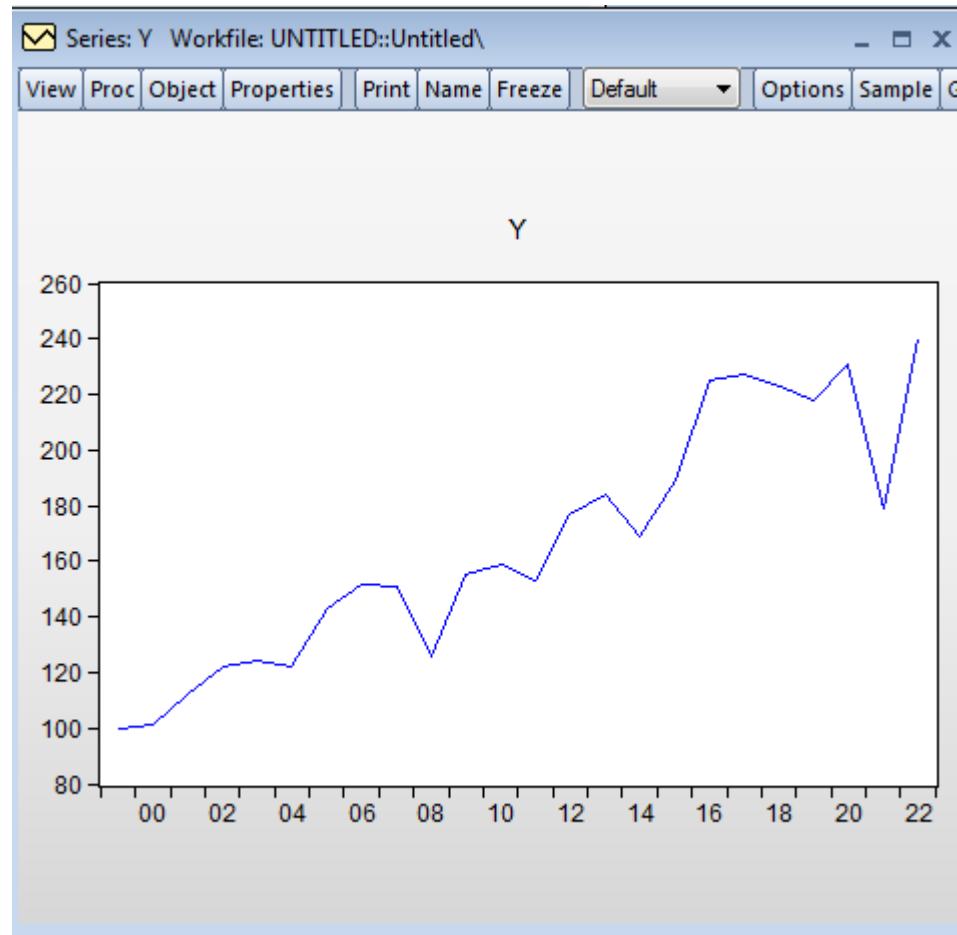
Miscellaneous:  
☐ Quote with single ' not "  
☐ Drop strings - don't make NA  
☐ Numbers in (..) are negative  
☐ Allow commas in numbers  
Currency:  
Text for NA: NA

Preview - First 16K of file:

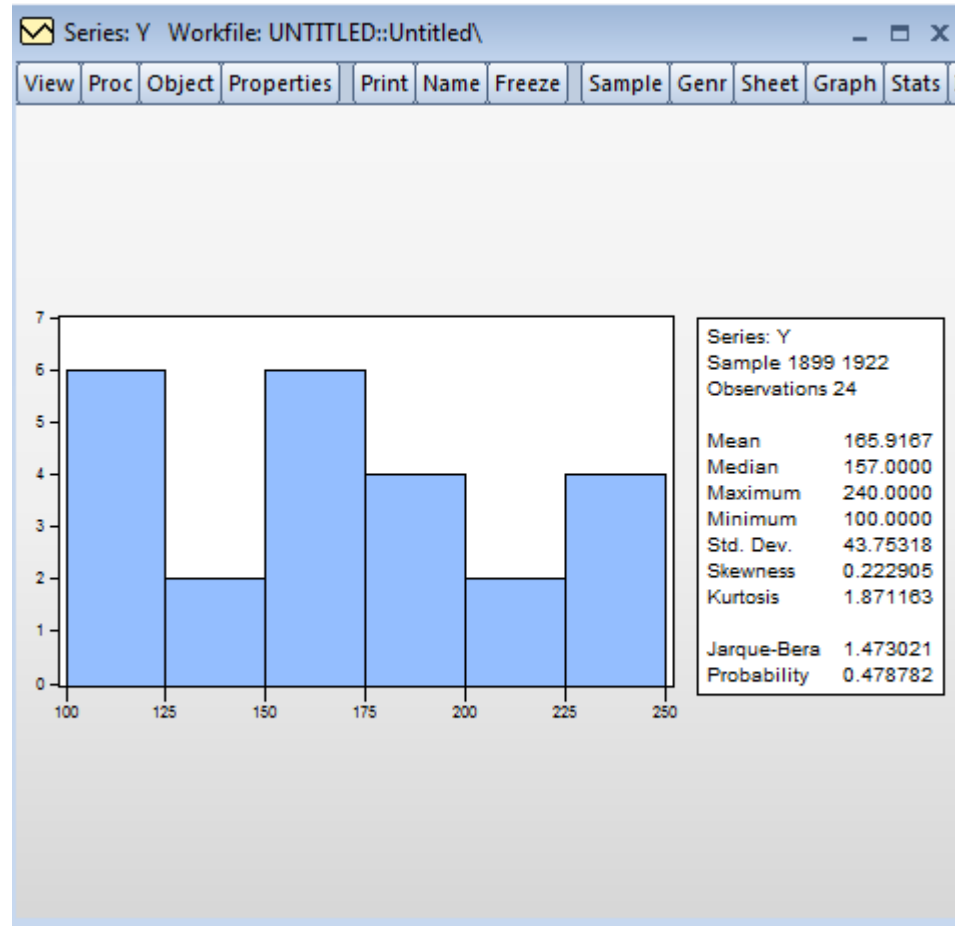
Year	Y	K	L
1899	100	100	100
1900	101	107	105
1901	112	114	110
1902	122	122	118
1903	124	131	123

OK Cancel

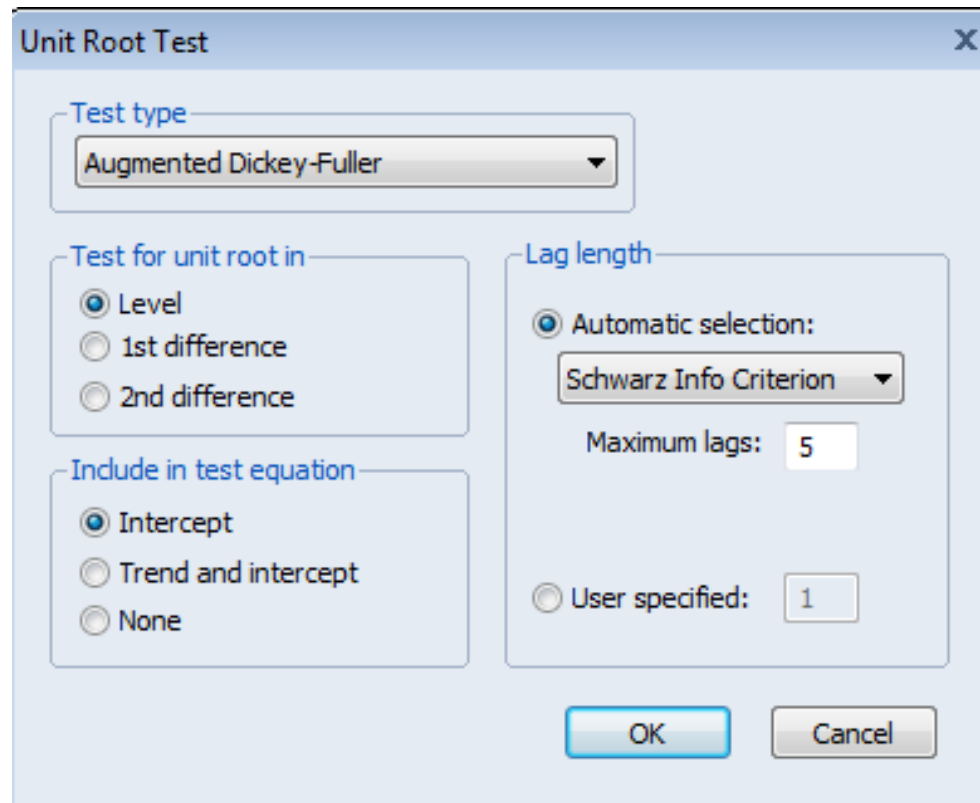
# Variable-View-Graph-Line



# Variable-View-Descriptive statistics-histogram



# Variable-View-Unit Root Test – 1



The image shows a 'Unit Root Test' dialog box with the following settings:

- Test type:** Augmented Dickey-Fuller
- Test for unit root in:**
  - ☒ Level
  - ☐ 1st difference
  - ☐ 2nd difference
- Include in test equation:**
  - ☒ Intercept
  - ☐ Trend and intercept
  - ☐ None
- Lag length:**
  - ☒ Automatic selection:
    - Schwarz Info Criterion
    - Maximum lags: 5
  - ☐ User specified: 1

Buttons: OK, Cancel

# Variable-View- Unit Root Test -2

Series: Y Workfile: UNTITLED::Untitled\

View Proc Object Properties Print Name Freeze Sample Genr Sheet Graph Stats I

Augmented Dickey-Fuller Unit Root Test on Y

Null Hypothesis: Y has a unit root  
Exogenous: Constant  
Lag Length: 1 (Automatic - based on SIC, maxlag=5)

	t-Statistic	Prob.
Augmented Dickey-Fuller test statistic	-1.085722	0.7024
Test critical values: 1% level	-3.769597	
5% level	-3.004861	
10% level	-2.642242	

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
Dependent Variable: D(Y)  
Method: Least Squares  
Date: 05/04/13 Time: 12:07  
Sample (adjusted): 1901 1922  
Included observations: 22 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Y(-1)	-0.118179	0.108848	-1.085722	0.2912
D(Y(-1))	-0.551345	0.233171	-2.364548	0.0289
C	27.86194	18.44320	1.510689	0.1473

R-squared	0.281605	Mean dependent var	6.318182
Adjusted R-squared	0.205984	S.D. dependent var	22.44228
S.E. of regression	19.99777	Akaike info criterion	8.955242
Sum squared resid	7598.306	Schwarz criterion	9.104021
Log likelihood	-95.50767	Hannan-Quinn criter.	8.990290
F-statistic	3.723914	Durbin-Watson stat	2.154553
Prob(F-statistic)	0.043197		

# Cobb–Douglas model estimation – 1

$$Y_t = a_0 K_t^{a_1} L_t^{a_2} + \varepsilon_t$$

$$\ln Y_t = \ln a_0 + a_1 \ln K_t + a_2 \ln L_t + \varepsilon_t$$

$$y_t = \beta_0 + \beta_1 x_{1t} + \beta_2 x_{2t} + \varepsilon_t$$

**Quick – estimate equation**

Equation Estimation

Specification Options

Equation specification

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

log(y) c log(k) log(l)

Estimation settings

Method: LS - Least Squares (NLS and ARMA)

Sample: 1899 1922

OK Скасувати

# Note

Generate Series by Equation

Enter equation

$a_0 = \exp(c(1))$

Sample

1899 1922

OK Cancel

Series: A0 Workfile: UNTITLED::Untitled\

View Proc Object Properties Print Name Freeze Default Sort Edit+/- Smpl+

A0

Last updated: 05/04/13 - 11:59  
Modified: 1899 1922 //  $a_0 = \exp(c(1))$

1899	3.453486			
1900	3.453486			
1901	3.453486			
1902	3.453486			
1903	3.453486			
1904	3.453486			
1905	3.453486			
1906	3.453486			
1907	3.453486			
1908				

# Cobb–Douglas model estimation – 2

$$Y_t = a_0 K_t^{a_1} L_t^{a_2} + \varepsilon_t$$

- Quick–estimate equation

Equation Estimation

Specification Options

Equation specification

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

$y=c(1)*(k^{c(2)})*(l^{c(3)})$

Estimation settings

Method: LS - Least Squares (NLS and ARMA)

Sample: 1899 1922

OK Скасувати

# Comparison

Equation: EQ01 Workfile: UNTITLED::Untitled\				
View	Proc	Object	Print	Name Freeze Estimate Forecast Stats Resids
Dependent Variable: LOG(Y) Method: Least Squares Date: 05/04/13 Time: 11:54 Sample: 1899 1922 Included observations: 24				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.177310	0.434293	-0.408272	0.6872
LOG(K)	0.233053	0.063530	3.668415	0.0014
LOG(L)	0.807278	0.145076	5.564513	0.0000
R-squared	0.957425	Mean dependent var		5.077336
Adjusted R-squared	0.953370	S.D. dependent var		0.269234
S.E. of regression	0.058138	Akaike info criterion		-2.735511
Sum squared resid	0.070982	Schwarz criterion		-2.588254
Log likelihood	35.82613	Hannan-Quinn criter.		-2.696444
F-statistic	236.1219	Durbin-Watson stat		1.523452
Prob(F-statistic)	0.000000			

Equation: EQ02 Workfile: UNTITLED::Untitled\				
View	Proc	Object	Print	Name Freeze Estimate Forecast Stats Resids
Dependent Variable: Y Method: Least Squares Date: 05/04/13 Time: 12:00 Sample: 1899 1922 Included observations: 24 Convergence achieved after 1 iteration $Y = C(1) * (K^A C(2)) * (L^A C(3))$				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	1.239384	0.539703	2.296417	0.0320
C(2)	0.267819	0.062640	4.275508	0.0003
C(3)	0.691480	0.138238	5.002098	0.0001
R-squared	0.942326	Mean dependent var		165.9167
Adjusted R-squared	0.936833	S.D. dependent var		43.75318
S.E. of regression	10.99653	Akaike info criterion		7.749505
Sum squared resid	2539.396	Schwarz criterion		7.896762
Log likelihood	-89.99406	Hannan-Quinn criter.		7.788572
Durbin-Watson stat	1.632557			

# Test for residuals normality – 1

Equation: EQ01 Workfile: UNTITLED::Untitled\

View Proc Object Print Name Freeze Estimate Forecast Stats Resids

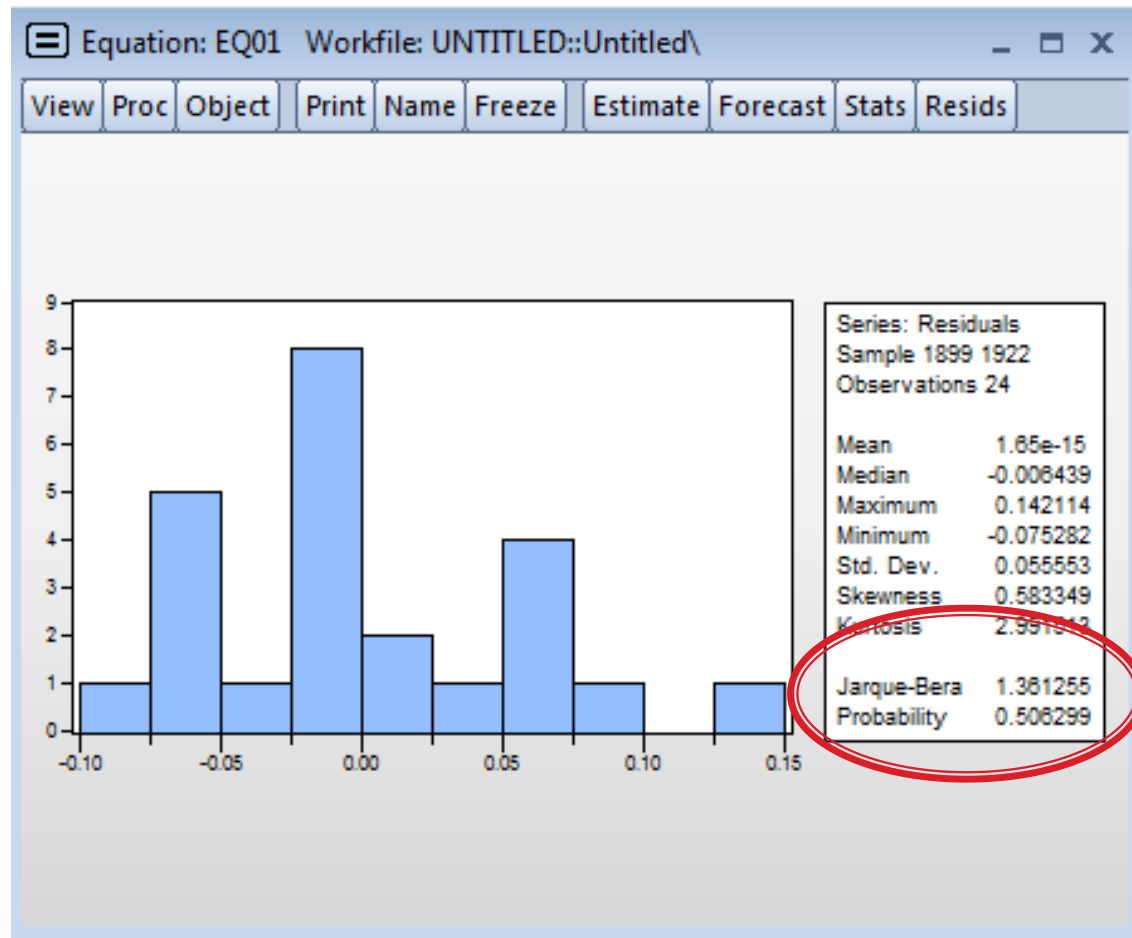
Representations  
Estimation Output  
Actual, Fitted, Residual  
ARMA Structure...  
Gradients and Derivatives  
Covariance Matrix  
Coefficient Diagnostics  
Residual Diagnostics  
Stability Diagnostics  
Label

	Std. Error	t-Statistic	Prob.
	0.434293	-0.408272	0.6872
	0.063530	3.668415	0.0014

Sum of squared resid 0.070962  
Log likelihood 35.82613  
F-statistic 236.1219  
Prob(F-statistic) 0.000000

Correlogram - Q-statistics...  
Correlogram Squared Residuals...  
Histogram - Normality Test  
Serial Correlation LM Test...  
Heteroskedasticity Tests...

# Test for residuals normality – 2



# Coefficient tests

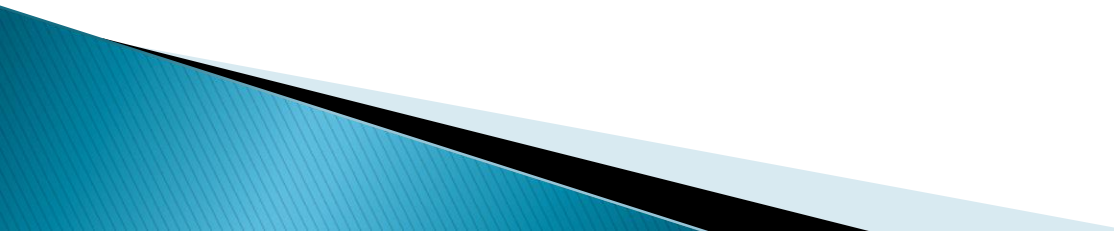
Equation: EQ01    Workfile: UNTITLED::Untitled\

View	Proc	Object	Print	Name	Freeze	Estimate	Forecast	Stats	Resids
Representations									
Estimation Output									
Actual, Fitted, Residual									
ARMA Structure...									
Gradients and Derivatives									
Covariance Matrix									
Coefficient Diagnostics									
Residual Diagnostics									
Stability Diagnostics									
Label									
Sum of squared resid						0.070962			
Log likelihood						35.82613			
F-statistic						236.1219			
Prob(F-statistic)						0.000000			

Std. Error	t-Statistic	Prob.
0.434293	-0.408272	0.6872

- Scaled Coefficients
- Confidence Intervals...
- Confidence Ellipse...
- Variance Inflation Factors
- Coefficient Variance Decomposition
- Wald Test- Coefficient Restrictions...
- Omitted Variables Test - Likelihood Ratio...
- Redundant Variables Test - Likelihood Ratio...
- Factor Breakpoint Test...

# Other tests

- ▶ Omitted variable test
  - ▶ Redundant variable test
  - ▶ Multicollinearity test
  - ▶ Heteroscedasticity test
  - ▶ Autocorrelation test
  - ▶ Stability test
  - ▶ RESET test
- 

# Special functions

- ▶ @trend
- ▶ @seas(i)

# Questions?



# Self study