# Is Your Job Cyclical?

- Accessing the website of the Bureau of Labor Statistics
- Finding out about the ups and downs of your job

Total Nonfarm Employment is illustrated in the figure to the right with recessions shaded. You can see the dips in employment in every one of these recessions. Your assignment is to gather some data about the employment level in your own job (the one you have or had, or the one you want) and find out when it has its ups and downs.

Total Payroll Employment
Recessions Shaded: Peak+1 to Trough
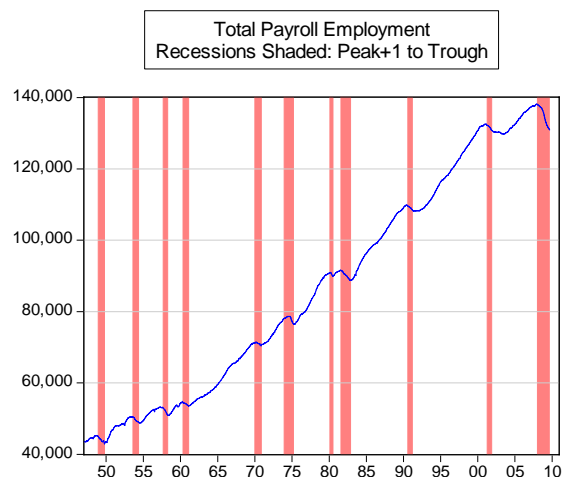
Step 1: Download from the BLS website the payroll employment data for a category which closely fits your own and put it into an Eviews file together with the data on total nonfarm employment. (Your data probably doesn't go back to 1939. Don't worry. You will have to make due with what you have.) Here are the steps you need to take:

The BLS website is http://www.bls.gov/home.htm

Use the pull-down menu "Databases & Tools" and Click on "DATA RETRIEVAL TOOLS" to take you to http://www.bls.gov/data/

Click on Employment to take you to: http://www.bls.gov/data/#employment

Find "Employment, Hours, and Earnings – National" and click on "One-Screen DATA SEARCH" to take you to: http://data.bls.gov/pdq/querytool.jsp?survey=ce

Then fill in the required information
1. ALL EMPLOYEES Thousands
2. Pick your sector, e.g. *Financial Activities*
3. *Pick your subsector. e.g. Mortgage and nonmortgage loan brokers*
4. Choose seasonally adjusted data, if boldface signal availability. Otherwise choose seasonally unadjusted data
5. Get Data

(NOTE: You may have to install a Java Plug-In and need to allow for pop-up windows.)

Now you have a data display that looks ok, but is hard to work with. Choose **More Formatting Options**

Choose:
>   Column Format
>   All Years
>   All Time Periods
>   Text
>   Retrieve Data

Now highlight the data and copy and paste it into Excel.

Next highlight the comma separated data and choose from the **Data** pull-down menu the **Text to Columns** command. On the "1. Step" choose "delimited", on the "2. Step" click "comma" and on "3. Step" simply click OK.   (Choose comma-separated and finish.)

Find a way of getting rid of the "annual" data, leaving only the monthly data. (Why doesn't the BLS do this for us???) I do this by a couple of sorts and deletes.

Step 2: Combine your data with the data provided on the total nonfarm payroll jobs and import it into Eviews.

Put your data into the excel file labeled DATA_Is_your_job_cyclical.xls. (Make sure to save it as an Excel 2000-3 version file since Eviews cannot handle Excel 2007 files.) The Eviews Worksheet in this excel file has the four columns displayed below: month, total nonfarm employment, a zero-one recession indicator and YOUR DATA.   Copy your data into the appropriate place in that last column (not the beginning) and change the name at the top of the column to describe your industry.

|	Total nonfarm: Total Employment (thousands), SA	Recession	Mortgage brokers	**YOUR DATA**
Jan-50	43530	0		
Feb-50	43298	0		
Mar-50	43952	0		
Apr-50	44376	0		
May-50	44717	0		
Jun-50	45084	0		

To get this into Eviews is really easy. From the pull-down **FILE** chose **OPEN** and then **Foreign Data as a Workfile**.   Find the Homework 3 data file and let Eviews do the work.

Take a look at the workfile and confirm that it has loaded correctly. You may need to tidy up the names, especially the total nonfarm series. Point to that series and right-click to get a menu that includes the rename option.

Step 3, Make a Graph
In Eviews or Excel, make a graph of what you have downloaded:

Mortgage and Nonmortgage Loan Brokers
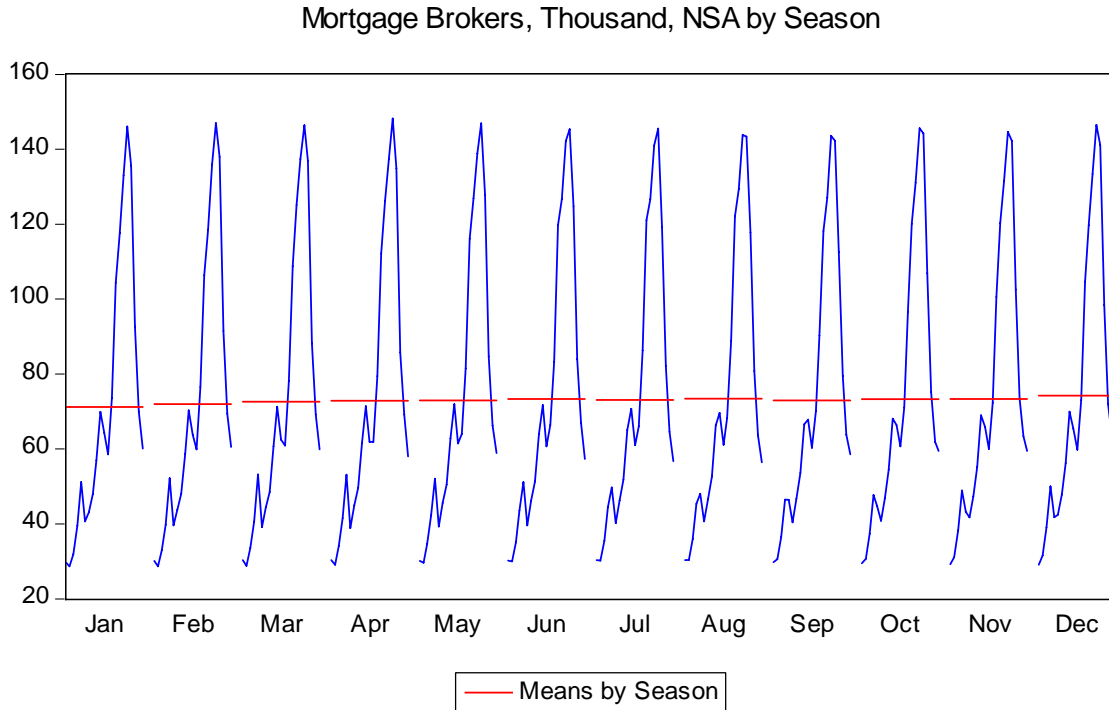**Thousands of Payroll Jobs**
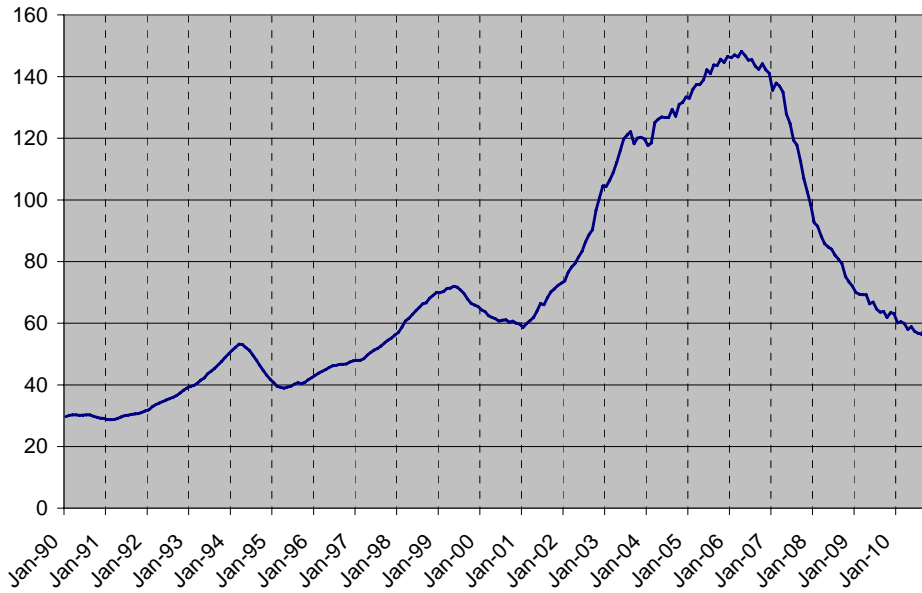

SAVE YOUR FILE NOW

Step 4: Answer some questions about your data.

Are your data seasonally adjusted?

Find the Eviews graphing option that displays a **Seasonal Graph**. (Seasonal Graph, Seasonal Type: Paneled lines & means illustrated below)   Is there a seasonal pattern?

Mortgage Brokers, Thousand, NSA by Season

— Means by Season

Is your kind of job increasing faster than payroll jobs in general, or slower? Compute the ratio of your job to overall payroll jobs and make a graph.


BROKERS/Total Nonfarm
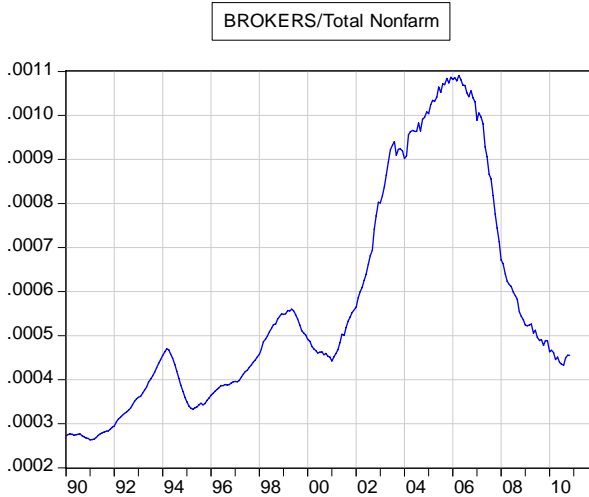
Is your job cyclical?

Make a graph that compares your data with the total nonfarm data and also indicates when the recessions occurred.

You can make the graph in Eviews by control-point to the series and double clicking to open them as a spreadsheet, then choose the **graph** command and **freeze** and **name** to insert this graph into the work file.   (You can highlight the recession periods using the Line/Shade option when looking at your graph. The recession periods are indicated by the Recession variable in the workfile.) On the Axis/Scale page of the Graph Options Menu, you may want to put one of the series' scaling on the right axis.

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Mortgage Brokers and Total Nonfarm Payroll Jobs
Recessions Shaded: Peak+1 to Trough
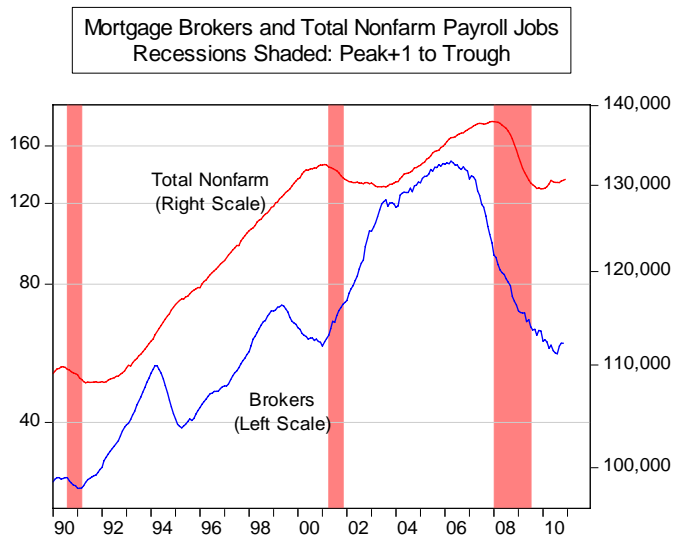
Compute the growth rates for total jobs and your job. Don't forget that funny formula for annualized growth rates using MONTHLY data. Here is what you can enter at the command line:

GENR G_NONFARM = -1 + (NONFARM/NONFARM(-1))^12
GENR G_YOURJOB = -1 + (YOURJOB/YOURJOB(-1))^12

Next run two regressions. You can do it with a pull down menu (use the **quick** pulldown) or you can type on the command line and hit enter:

LS G_NONFARM C G_NONFARM(-1) RECESSION
LS G_YOURJOB C G_YOURJOB(-1) RECESSION

Name the regressions to save them in your workfile
SAVE YOUR FILE NOW

So take a look at these regressions and determine if the growth in your jobs is stronger or weaker in recessions, and compare that with nonfarm overall.

LS G_NONFARM C G_NONFARM(-1) RECESSION

Dependent Variable: G_NONFARM
Method: Least Squares
Date: 01/28/11   Time: 16:35
Sample (adjusted): 1990M01 2010M12
Included observations: 252 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.005799	0.001050	5.524194	0.0000
G_NONFARM(-1)	0.620106	0.045546	13.61487	0.0000
RECESSION	-0.017655	0.002854	-6.185640	0.0000

R-squared	0.678780	Mean dependent var	0.009002
Adjusted R-squared	0.676200	S.D. dependent var	0.021451
S.E. of regression	0.012207	Akaike info criterion	-5.961859
Sum squared resid	0.037101	Schwarz criterion	-5.919842
Log likelihood	754.1942	Hannan-Quinn criter.	-5.944952
F-statistic	263.0846	Durbin-Watson stat	2.486292
Prob(F-statistic)	0.000000		

Dependent Variable: G_BROKERS
Method: Least Squares
Date: 01/28/11   Time: 16:36
Sample (adjusted): 1990M03 2010M11
Included observations: 249 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.035213	0.014951	2.355202	0.0193
G_BROKERS(-1)	0.556548	0.053348	10.43246	0.0000
RECESSION	-0.051081	0.039375	-1.297310	0.1957

R-squared	0.331024	Mean dependent var	0.064556
Adjusted R-squared	0.325585	S.D. dependent var	0.253881
S.E. of regression	0.208494	Akaike info criterion	-0.285834
Sum squared resid	10.69360	Schwarz criterion	-0.243455
Log likelihood	38.58632	Hannan-Quinn criter.	-0.268776
F-statistic	60.86312	Durbin-Watson stat	2.405366
Prob(F-statistic)	0.000000		

FINALLY: Write a paragraph or two that describes the ups and downs of your job. Is it cyclical? Is it seasonal? Is it growing like crazy? Why did it have that bump in 1994 and 1998? (For brokers, is that an early warning sign of problems in housing?)