**Growth and Business Cycles Project**

Download the following two data files (excel) from the course website.

1. Table 1.1.1 Growth Rates
2. Table 1.1.6 Real GDP

Teaching Note: Capable students could download this information themselves from the BEA website (<http://www.bea.gov/national/index.htm>) using the interactive data tables, but probably will require a demonstration of how to use the site. Providing students with the data in Excel eliminates this step.

Both contain historical data obtained from the Bureau of Economic Analysis, for 1930-2010 (update to accurately describe the years you include (or ask students to include) in the spreadsheet; if you want to use quarterly data this is not available until 1947 on the BEA site), pertaining to the macro economy of the United States.

1. Using Table 1.1.1, create a graph of growth rates over time. Make a single graph showing the growth rate over time of Real GDP (Line 1), Personal Consumption Expenditures (Line 2), and Gross Private Domestic Investment (Line 3). Your graph should have a title, time (years) on the horizontal axis, and annual growth rate (percentage) on the vertical axis. In a paragraph following your graph, discuss what you see. Carefully define “recession,” and note which years there has been recession in the US. Carefully define “expansion” and note which years there has been expansion. Compare the changes in growth rate of consumption with the changes in growth rate of investment. Which series (consumption or investment) shows the biggest changes? Which changes first?

Students should note several things here: First, these growth rates change together in the same direction (ie: rates will increase and/or decrease in the same years). This is a great place to reinforce that a “recession” is a decline in real GDP and will be represented by a growth rate of real GDP that is LESS THAN ZERO! The growth rate of investment changes much more dramatically than the growth rate of consumption and it generally changes more quickly as well. If you have discussed the volatility of investment versus consumption spending in class, this illustrates that point very well. You could always omit investment and consumption and just have students focus on GDP growth if that makes more sense for your class.

1. Using Table 1.1.6, create a graph of Real GDP over time. Your graph should have a title, time (years) on the horizontal axis, and Real GDP on the vertical axis. Again, discuss what you see in a paragraph following the graph. How is Real GDP changing? Are the recessions that you found in question 1 visible in this graph? How would you describe the long-run trend in US GDP?

The overall trend of US GDP us increasing despite several (relatively) small dips. So this nicely illustrates the difference between long-run economic growth and short run fluctuations driven by business cycle activity. Are the students saying the right thing about recession? If they identified recessions correctly in question 1 (growth rate of real GDP <0) then those should be visible as declines in real GDP in this graph.

1. Again using Table 1.1.6, calculate Net Exports for 1930 - 2010. (update to reflect years included in the data) Then create a graph of net exports over time, with the value of net exports on the vertical axis and time (year) on the horizontal axis. In a brief paragraph following your graph, discuss any trends that you observe. How have US net exports evolved over the time period shown in your graph? Give one or two possible explanations for the changes in net exports that you observe.

This graph nicely illustrates the US increased integration with the global economy, including the substantial trade deficit that has existed since the mid 1980s. Students can observe that the size of the trade deficit decreased in 2008 and 2009, the recession years. Remind them why we expect net exports to fall during recession years (lower national income means we purchase less of everything, including imported goods). You can also use the data in the table to show that although exports have increased steadily over this period, imports have increased faster. So, it’s not that we are actually exporting fewer goods, it’s our voracious appetite for imported goods that drives the deficit.