Answers to Questions: Chapter 1

1. Question 1 does not have a solution. It is intended first, to get the students to search out news stories that are related to economics, and second, to get them to distinguish between stories that have a macroeconomic theme as opposed to a microeconomic orientation.

2. Using the quarterly GDP data contained in Table A-2, the recession phases of the basic business cycle would seem to be: 1947:Q1 to 1947:Q3; 1948:Q4 to 1949:Q4; 1953:Q2 to 1954:Q1; 1957:Q3 to 1958:Q1; 1960:Q1 to 1960:Q4; 1969:Q3 to 1970:Q4; 1973:Q4 to 1975:Q1; 1980:Q1 to 1980:Q3; 1981:Q3 to 1982:Q3; 1990:Q2 to 1991:Q1; 2001:Q2 to 2001:Q3; and 2007:Q4 to 2009:Q2. The expansion phases would seem to be: 1947:Q4 to 1948:Q4; 1949:Q4 to 1953:Q2; 1954:Q1 to 1957:Q3; 1958:Q1 to 1960:Q1; 1960:Q4 to 1969:Q3; 1970:Q4 to 1973:Q4; 1975:Q1 to 1980:Q1; 1980:Q3 to 1981:Q3; 1982:Q3 to 1990:Q2; 1991:Q1 to 2001:Q2; 2007:Q4 to 2009:Q2; and 2009:Q2 to the present. Please note that these dates do not conform exactly to the official dates of recessions and expansions as determined by the National Bureau of Economic Research (NBER). For example, there was no recession in 1947, and the 1960–61 recession started in the second quarter, not the first quarter of 1960, and ended in the first quarter of 1961, not the last quarter of 1960. The NBER's website, http://www.nber.org/cycles/main.html, has information on the precise starting and ending dates of recessions and expansions.

3. In terms of number of quarters during which real GDP declined, note that neither of the two recessions during the 1983–2007 period were longer than any of the recessions during the period 1947–82. Second, no recession prior to 1983 was as short as the 2001 recession, again in terms of the number of quarters during which real GDP declined. Furthermore, real GDP declined for a greater number of quarters during four of the recessions prior to 1983 than the number of declining quarters of real GDP during the 1990–91 recession.

   In terms of the length of expansions, all three expansions during the years 1983 to 2007 were longer than all of the expansions during the period 1947–1982, with the exception of the long expansion during the 1960s. Therefore, we can conclude that, for the most part, recessions were shorter and expansions were longer during the 1983–2007 period when compared to the years between 1947 and 1982.

   The 2007-09 recession, which started in the fourth quarter of 2007 and ended in the second quarter of 2009, was the longest recession in the post-World War II era.

Finally, you should be aware of the fact that the NBER's official dating of the lengths of recessions and expansions is in terms of months, not quarters. However, the general conclusions concerning the comparisons of the lengths of recessions and expansions that you reach in answering this question are not altered by switching the dating of these lengths from quarters to months. Again, for specifics concerning the exact lengths of recessions and expansions, see the NBER's website.

4. Natural real GDP equals actual real GDP, and the natural unemployment rate equals the actual unemployment rate when the inflation rate is constant.

5. As the economy expanded and unemployment dropped during 2003–04, policymakers became increasingly concerned that continued expansion would move actual real GDP above natural real GDP and actual unemployment below the natural rate of unemployment, causing inflation to speed up. The Fed was attempting to use monetary policy to stabilize the economy by slowing the growth of aggregate demand.

6. As the recession started and the unemployment rate began to rise, policymakers probably did become concerned that actual real GDP was falling below natural real GDP. On the other hand, they were also concerned that too large a decline in short-term interest rates might increase the inflation rate by pushing actual real GDP well above natural real GDP.

7. a. The unemployment and inflation rates are concepts used to evaluate the economy over the short run. In particular, we are concerned with the behavior of the unemployment and inflation rates over the course of a business cycle. On the other hand, how fast living standards rise over the long run is determined by productivity growth.

   b. Figures 1-2, 1-3, 1-4, and 1-6 all show how natural real GDP can be used in conjunction with real GDP to evaluate the behavior of the economy and the unemployment rate over the business cycle or a set of business cycles. In addition, the definition of natural real GDP tells us how to use it in conjunction with real GDP to discuss what pressures there are on the inflation rate during the business cycle. Finally, Figure 1-5 makes clear that natural real GDP can be used to measure how fast an economy is growing over the long run.

8. Since productivity growth means that the average output produced per hour is rising, the same amount of output can be produced in fewer hours. Therefore, some of the increase in productivity can be used to spend more time in school, more time on vacation, and a greater percentage of one's life in retirement.

9. When real GDP is above natural real GDP, there is a tendency for the inflation rate to rise. Similarly, the unemployment rate is “too high” when natural real GDP exceeds real GDP, and simultaneously, inflation tends to fall. Therefore, by examining where real GDP is relative to natural real GDP and/or how fast real GDP is growing relative to natural real GDP, policymakers can decide how to adjust their policy instruments in order to achieve the desired values of the inflation and unemployment rates.

10. Over the time period 1970–2007, economic trends show important differences as well as similarities among the United States and the major European countries. Unemployment in Europe rose steadily from 1970 to 1985, then declined slightly until 1989–90, when it started to once again rise, reaching its highest level during 1994–95. Thereafter, it started declining until 2000. The unemployment rate rose through 2004, but declined until the onset of the Global Economic Crisis in 2008. Unemployment in the United States rose for most of the first half of the 1970s, but then decline during the second half of the decade. The unemployment rate spiked upward in the first three years of the 1980s, but then fell for most of the next 18 years, with the exception of 1990-92. The unemployment rate rose from 2000-02, then declined until the onset of the Global Economic Crisis at the end of 2007. Finally, the unemployment rate was higher in the United States than it was in Europe up until 1982. Since then the unemployment rate has been lower in the United States than in Europe.

    Productivity growth rates declined in both Europe and the United States over the course of the seventies, then fluctuated up and down until 1995. During that 25-year period, productivity growth in Europe was higher than in the United States. The productivity growth rate in the United States started to rise after 1995, peaking in 2002, before declining until 2006, when it started to rise again. On the other hand, the decline in productivity growth in Europe continued after 1995. After 1998, the productivity growth rate in the United States exceeded the European productivity growth rate.

    The two main differences between the behaviors of the United States and European economies since the start of the Global Economic Crisis have been a much larger increase in the unemployment rate and more rapid productivity growth in the United States than in Europe.