Macroeconomics: The Big Picture

1. Which of the following questions are relevant for the study of macroeconomics and which for microeconomics?
   a. How will Ms. Martin’s tips change when a large manufacturing plant near the restaurant where she works closes?
   b. What will happen to spending by consumers when the economy enters a downturn?
   c. How will the price of oranges change when a late frost damages Florida’s orange groves?
   d. How will wages at a manufacturing plant change when its workforce is unionized?
   e. What will happen to U.S. exports as the dollar becomes less expensive in terms of other currencies?
   f. What is the relationship between a nation’s unemployment rate and its inflation rate?

Solution

1. a. This is a microeconomic question because it addresses the effects of a single firm’s actions (the closure of a manufacturing plant) on a single individual (the waitress).
   b. This is a macroeconomic question because it considers how overall spending by consumers is affected by the state of the macroeconomy.
   c. This is a microeconomic question because it looks at how a single market (oranges) will be affected by a late frost.
   d. This is a microeconomic question because it addresses how wages in a particular plant will change when the firm’s workforce is unionized.
   e. This is a macroeconomic question because it considers the change in the overall level of exports as the value of the dollar changes.
   f. This is a macroeconomic question because it addresses the relationship between two aggregate measures of economic activity: inflation and unemployment.

2. When one person saves more, that person’s wealth is increased, meaning that he or she can consume more in the future. But when everyone saves more, everyone’s income falls, meaning that everyone must consume less today. Explain this seeming contradiction.

Solution

2. This question concerns the paradox of thrift; what is true for an individual—that saving makes you better off—is not always true for the economy as a whole. When an individual saves, that person adds to his or her wealth, providing for higher consumption in the future. However, if everyone saves, firms will not sell as much and will lay off workers. Individuals find that their incomes fall as a result. So they must consume less today.

3. Before the Great Depression, the conventional wisdom among economists and policy makers was that the economy is largely self-regulating.
   a. Is this view consistent or inconsistent with Keynesian economics? Explain.
Solution

3. a. The view that the economy is largely self-regulating is at odds with Keynesian economics, which claims that managing the economy, via the tools of fiscal and monetary policy, is the government’s responsibility.

b. The Great Depression was such a catastrophic occurrence that it shifted the conventional wisdom away from the view that the economy is largely self-regulating to the Keynesian view that the government should intervene to manage the economy.

c. In 2007–2009, policymakers actively used monetary and fiscal policy to boost the economy. If they had done nothing, as policy makers did during the Great Depression, it is very likely that the recession of 2007–2009 would have been even longer and deeper.

4. How do economists in the United States determine when a recession begins and when it ends? How do other countries determine whether or not a recession is occurring?

Solution

4. In the United States, economists assign the task of identifying recessions to an independent panel of experts at the National Bureau of Economic Research who determine when a recession begins and when it ends. It makes this determination by looking at a variety of economic indicators, with the main focus on employment and production. In many other countries, economists adopt the rule that a recession is a period of at least two consecutive quarters during which the overall output of the economy shrinks.

5. The U.S. Department of Labor reports statistics on employment and earnings that are used as key indicators by many economists to gauge the health of the economy. Figure 6-4 in the text plots historical data on the unemployment rate each month. Noticeably, the numbers were high during the recessions in the early 1990s, in 2001, and in 2007–2009.


b. Compare the current numbers with the recessions in the early 1990s, 2001, and in 2007–2009 as well as with the periods of relatively high economic growth just before the recessions. Are the current numbers indicative of a recessionary trend?

Solution

5. a. Answers will vary. In the December 2011 Employment Situation, the Bureau of Labor Statistics states that the December 2011 unemployment rate was 8.5%.

b. During the recession of the early 1990s, the unemployment rate rose from 5.5% to 6.8%. During the recession of 2001, the unemployment rate rose from 4.3% to 5.5%. During the recession of 2007–2009, the unemployment rate rose from 5% to 9.5%. The unemployment rate continued to rise for a time after the official end of the recession, reaching a high of 10% in November of 2009. The current numbers are not indicative of a recessionary trend. The current rate of 8.5% is lower than the highest unemployment rates during the 2007–2009 recession and the unemployment rate has been falling.
6. The accompanying figure shows the annual rate of growth in employment for the
United Kingdom and Japan from 1991 to 2010. (The annual growth rate is the per-
cent change in each year’s employment over the previous year.)

![Annual percent change in employment](image)

- **a.** Comment on the business cycles of these two economies. Are their business cycles
  similar or dissimilar?
- **b.** Use the accompanying figure and the figure in the Global Comparison on inter-
national business cycles in the chapter to compare the business cycles of each of
these two economies with those of the United States and the euro area.

**Solution**

6. **a.** Japan and the United Kingdom do not appear to have similar business cycles during
the 1990s. While employment was falling in the United Kingdom in the early
1990s, growth in employment was positive in Japan. The reverse occurred in the
late 1990s. However, their business cycles were very similar in the 2000s, with a

**b.** The United Kingdom appears to have a business cycle similar to those of both the
United States and the euro area. In the early 1990s, all three economies suffered
negative growth rates in employment. They also experienced relatively low or nega-
tive growth in employment in 2001, and a severe drop in employment during the

7. **a.** What three measures of the economy tend to move together during the business
cycle? Which way do they move during an upturn? During a downturn?

**b.** Who in the economy is hurt during a recession? How?

**c.** How did Milton Friedman alter the consensus that had developed in the after-
math of the Great Depression on how the economy should be managed? What is
the current goal of policy makers in managing the economy?

**Solution**

7. **a.** The three measures that tend to move together are (1) industrial output, called
real gross domestic product, (2) employment, and (3) inflation. All three tend to
rise during an upturn and fall during a downturn.

**b.** Workers and their families experience a great deal of pain and hardship during
recessions because many people lose their jobs and many who retain their jobs
see their wages suffer. As a result, living standards decline and the number of
people living in poverty rises. Corporations also experience a fall in profits during
recessions.
c. According to the Keynesian view that developed after the Great Depression, it was the government’s responsibility to manage the economy to reduce the severity of downturns. According to Milton Friedman, booms in the economy should also be managed in order to reduce their magnitude. So the current goal of economic policymakers is to “smooth out” the business cycle—to reduce the magnitude of both booms and busts.

8. Why do we consider a business-cycle expansion different from long-run economic growth? Why do we care about the size of the long-run growth rate of real GDP versus the size of the growth rate of the population?

8. Long-run economic growth is the sustained upward trend in the economy's output over long periods of time. Long-run growth per capita is the key to rising wages and sustained increases in the standard of living. A business-cycle expansion results in a short-run (many months or a few years) increase in real GDP, but long-run growth results in a long-run (many decades) increase in real GDP per capita. We care about the relative size of the long-run growth rate of real GDP and the population growth rate because living standards will fall unless the long-run growth rate of real GDP is at least as high as the growth rate of the population.

9. In 1798, Thomas Malthus's Essay on the Principle of Population was published. In it, he wrote: “Population, when unchecked, increases in a geometrical ratio. Subsistence increases only in an arithmetical ratio. . . . This implies a strong and constantly operating check on population from the difficulty of subsistence.” Malthus was saying that the growth of the population is limited by the amount of food available to eat; people will live at the subsistence level forever. Why didn't Malthus's description apply to the world after 1800?

9. Malthus expected that life would continue as it had for the previous 800 or so years. He did not know that advances in technology would bring large changes in productivity and that the long-run growth of the economy's output would exceed population growth. As we learned in the chapter, in the period before 1800, the world economy grew extremely slowly by contemporary standards. Furthermore, the population grew almost as fast, meaning that there was hardly any increase in output per person. However, since 1800, long-run economic growth has resulted in sustained increases in living standards.

10. College tuition has risen significantly in the last few decades. From the 1979–1980 academic year to the 2009–2010 academic year, total tuition, room, and board paid by full-time undergraduate students went from $2,327 to $15,041 at public institutions and from $5,013 to $35,061 at private institutions. This is an average annual tuition increase of 6.4% at public institutions and 6.7% at private institutions. Over the same time, average personal income after taxes rose from $7,956 to $35,088 per year, which is an average annual rate of growth of personal income of 5.0%. Have these tuition increases made it more difficult for the average student to afford college tuition?
10. To determine whether it is more or less difficult for a typical person to afford college, we would need to know how much tuition had increased relative to average income in the United States. Average personal income after taxes rose from $7,956 to $35,088 from 1979 to 2009, or an average annual increase of 5.4%. So it was more difficult for the average person to afford to attend either a public institution, where tuition increased 6.4% annually, or a private institution, where tuition increased 6.7% annually.

11. Each year, *The Economist* publishes data on the price of the Big Mac in different countries and exchange rates. The accompanying table shows some data used for the index from 2007 and 2011. Use this information to answer the following questions.

a. Where was it cheapest to buy a Big Mac in U.S. dollars in 2007?
b. Where was it cheapest to buy a Big Mac in U.S. dollars in 2011?
c. Using the increase in the local currency price of the Big Mac in each country to measure the percent change in the overall price level from 2007 to 2011, which nation experienced the most inflation? Did any of the nations experience deflation?

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<td>$2.65</td>
<td>peso20.0</td>
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<td>United States</td>
<td>$3.22</td>
<td>$3.22</td>
<td>$4.07</td>
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</table>

**Solution**

11. a. In U.S. dollars, a Big Mac was cheapest in Japan in 2007.

b. In U.S. dollars, a Big Mac was cheapest in the United States in 2011.

c. First we must calculate the percent change of the local currency price of the Big Mac during the period from 2007 to 2011.

- Percent price change in Argentina = \((\text{peso}20.0 - \text{peso}8.25)/\text{peso}8.25 = 142\%\)
- Percent price change in Canada = \((\text{C}\$4.73 - \text{C}\$3.63)/\text{C}\$3.63 = 30\%\)
- Percent price change in Euro area = \((\text{€}3.44 - \text{€}2.94)/\text{€}2.94 = 17\%\)
- Percent price change in Japan = \((\text{¥}320 - \text{¥}280)/\text{¥}280 = 14\%\)
- Percent price change in the United States = \((\text{US}\$4.07 - \text{US}\$3.22)/\text{US}\$3.22 = 26\%\)

Argentina experienced the highest inflation over the period, a price change of 142%. Every country experienced a positive change in its price level, so no country experienced deflation.
12. The accompanying figure illustrates the increasing trade deficit of the United States since 1987. The United States has been consistently and, on the whole, increasingly importing more goods than it has been exporting. One of the countries it runs a trade deficit with is China. Which of the following statements are valid possible explanations of this fact? Explain.

<table>
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<tr>
<th>Year</th>
<th>U.S. trade deficit (billions)</th>
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<tr>
<td>1987</td>
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<tr>
<td>1991</td>
<td>700</td>
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<td>1995</td>
<td>600</td>
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<td>2003</td>
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<tr>
<td>2007</td>
<td>300</td>
</tr>
<tr>
<td>2010</td>
<td>400</td>
</tr>
</tbody>
</table>

a. Many products, such as televisions, that were formerly manufactured in the United States are now manufactured in China.
b. The wages of the average Chinese worker are far lower than the wages of the average American worker.
c. Investment spending in the United States is high relative to its level of savings.

12. a. This is not a valid possible explanation. The determination of where goods are produced around the world is a microeconomic phenomenon, based on comparative advantage. Macroeconomics, not microeconomics, determines whether a country runs a trade deficit or surplus.
b. This is not a valid possible explanation. Low Chinese wages could possibly explain why some goods are produced in China and not in the United States, a microeconomic question. Macroeconomics, not microeconomics, determines whether a country runs a trade deficit or surplus.
c. This is a valid explanation. A country’s levels of savings and investment spending are macroeconomic phenomena that determine whether it runs a trade surplus or deficit.